

DIPTERA FROM NEPAL  
EMPIDIDAE



BY

KENNETH G. V. SMITH

British Museum (Natural History)

*xvj.*

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# DIPTERA FROM NEPAL

## EMPIDIDAE

By KENNETH G. V. SMITH

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### SYNOPSIS

The Empididae collected on the 1954 and 1961-62 British Museum Expeditions to Nepal are systematically treated. Thirty-eight new species, 1 new subspecies, representing 18 genera are described and their relationships discussed. A lectotype is designated for *Hemerodromia xiphias* Bezzi.

### INTRODUCTION

THIS paper is based mainly on material collected by Mr. R. L. Coe, entomologist on the 1961-62 British Museum (Natural History) Expedition to Eastern Nepal. Cold winds necessitated collecting in sheltered river valleys, which accounts for the bias towards groups with aquatic immature stages, e.g. *Hemerodromiinae*, *Clinocerinae* and *Hilara*. The *Empidinae*, such a prominent feature of the Palaearctic fauna were poorly represented, but members of this subfamily normally appear later in the year when more flowers are out. Most of Brunetti's (1913, 1920) *Empidinae* from the Indian Himalayas were captured during May-June. Mr. Coe's interesting collection suggests faunistic links with the Nearctic, Oriental and Eastern Palaearctic regions. A few specimens collected by Mr. J. Quinlan on the 1954 Expedition are also included.

I thank Drs. W. N. Ellis and H. P. Duffels of the Zoölogisch Museum, Amsterdam and Dr. G. Petersen of the Deutsches Entomologische Institut, Berlin for the loan of type material, I thank Dr. T. Saigusa for a very useful exchange of Japanese material involving genera common to Nepal and Japan and for manuscript notes on his undescribed genera and species. I thank Mr. R. L. Coe and Mr. K. Hyatt for checking the Hindi and other Nepalese names used for the new species, the meanings of which are given in the text. Finally I thank my wife for her careful preparation of the typescript.

Unfortunately I have been unable to examine or obtain information on Brunetti's types in the Indian Museum, Calcutta or Collin's types in the Leningrad Museum.

This means that comparisons with these species have been from descriptions only, and some of Brunetti's are often inadequate by modern taxonomic standards. However in most cases I am satisfied that the differences described are adequate indication that separate taxa are involved. I have stated clearly the few cases where I consider my species may prove to be conspecific with described forms and feel in these cases that the ultimate loss of a species to synonymy is better than starting a chain of misidentifications.

Previously only one member of the family, *Tachydromia nepalensis* Brunetti, was recorded from Nepal. In the present paper 38 new species and 1 new subspecies are described, representing 18 genera.

All type material is in the British Museum (Natural History), London.

The nomenclature used for the male genitalia follows Bährmann (1960).

KEY TO GENERA AND SUBGENERA KNOWN FROM NEPAL

- |    |  |    |
|----|--|----|
| 1  | All veins running straight to wing margin without forking (except for <i>Rs</i> ). Cell <i>Cu</i> absent (except <i>Tachydromia</i> ) . . . . .  | 2  |
| -  | Vein <i>M</i> always, and <i>R</i> <sub>4+5</sub> often forked. Cell <i>Cu</i> present . . . . .   | 7  |
| 2  | (1) Humeri not differentiated . . . . .  | 3  |
| -  | Humeri clearly differentiated . . . . .  | 6  |
| 3  | (2) Veins <i>R</i> <sub>1</sub> and <i>R</i> <sub>2+3</sub> longer, the latter ending in costal vein well beyond middle of wing (Text-fig. 4). Front femora moderately swollen . . . . . ( <i>DRAPETIS</i> s.l.) | 4  |
| -  | Veins <i>R</i> <sub>1</sub> and <i>R</i> <sub>2+3</sub> short, the latter ending in costal vein only a little beyond middle of wing (Text-fig. 6). Front femora very swollen . . . . . <i>STILPON</i> (p. 72)    |    |
| 4  | (3) Distinct jowls below eyes. Second antennal segment with a distinct bristle beneath . . . . . s.g. <i>CROSSOPALPUS</i> (p. 71)  |    |
| -  | No distinct jowls below eyes. Second antennal segment without a distinct bristle beneath . . . . .   | 5  |
| 5  | (4) No anterodorsal bristles present on hind tibiae . . . . . s.g. <i>DRAPETIS</i> s.s. (p. 65)  |    |
| -  | One or more strong anterodorsal bristles present on hind tibiae . . . . . s.g. <i>ELAPHROPEZA</i> (p. 65)  |    |
| 6  | (2) Cell <i>Cu</i> absent . . . . . <i>SICODUS</i> (p. 74)   |    |
| -  | Cell <i>Cu</i> present . . . . . <i>TACHYDROMIA</i> (p. 75)  |    |
| 7  | (1) Two veins issuing from end of 1st <i>M</i> <sub>2</sub> cell, neither of which is forked . . . . .   | 8  |
| -  | <i>Either</i> three veins issuing from 1st <i>M</i> <sub>2</sub> cell <i>or</i> two veins with one of them forked <i>or</i> 1st <i>M</i> <sub>2</sub> absent . . . . .   | 9  |
| 8  | (7) Cell <i>Cu</i> longer than cell <i>M</i> . . . . . <i>HYBOS</i> (p. 81)  |    |
| -  | Cell <i>Cu</i> shorter than cell <i>M</i> and square ended . . . . . <i>STENOPROCTUS</i> (p. 83)   |    |
| 9  | (7) 1st <i>M</i> <sub>2</sub> cell absent . . . . .  | 10 |
| -  | 1st <i>M</i> <sub>2</sub> cell present . . . . .   | 11 |
| 10 | (9) Cell <i>Cu</i> present. Axillary angle of wing well developed . . . . . <i>BICELLARIA</i> (p. 85)  |    |
| -  | Cell <i>Cu</i> absent. Axillary angle of wing not developed . . . . . <i>HEMERODROMIA</i> (p. 90)  |    |
| 11 | (9) Vein <i>R</i> <sub>4+5</sub> not forked . . . . .  | 12 |
| -  | Vein <i>R</i> <sub>4+5</sub> forked . . . . .  | 13 |
| 12 | (11) Front legs raptorial, i.e., front coxae greatly elongated . . . . . <i>CHELIPODA</i> (p. 94)  |    |
| -  | Front legs not raptorial, i.e., front coxae not elongated . . . . . <i>HELEODROMIA</i> (p. 97)   |    |
| 13 | (11) Cell <i>Cu</i> only about half length of cell <i>M</i> . Front coxae greatly elongated . . . . . <i>CHELIFERA</i> (p. 98)   |    |
| -  | Cell <i>Cu</i> as long as, or nearly as long as, cell <i>M</i> . Front coxae at most only slightly elongated . . . . .   | 14 |

14 (13)	Axillary angle of wing well developed . . . . .	<b>HILARA</b> (p. 85)
-	Axillary angle of wing not developed . . . . .	15
15 (14)	Wings mottled brown with hyaline spots. Neck very high up on occiput	<b>DOLICHOCEPHALA</b> (p. 98)
-	Wings clear or brownish tinged, but not mottled with hyaline spots. . . . .	16
16 (15)	Clypeus distinct and elongate and with fine vibrissae and hairs (Text-fig. 50)	<b>HYPENELLA</b> (p. 100)
-	No distinct clypeus . . . . .	17
17 (16)	Vein $R_1$ setulose above (Text-fig. 63) . . . . .	<b>TRICHOCLINOCERA</b> (p. 103)
-	Vein $R_1$ not setulose above . . . . .	18
18 (17)	Acrostichal bristles present . . . . .	<b>PROCLINOPYGA</b> (p. 104)
-	Acrostichal bristles absent . . . . .	19
19 (18)	Scutellum hairy on disc . . . . .	<b>ACANTHOCLINOCERA</b> (p. 101)
-	Scutellum bare above . . . . .	<b>CLINOCERA</b> (p. 106)

## TACHYDROMIINAE

**DRAPETIS** Meigen

*Drapetis* Meigen, 1822, *Syst. Besch.* 3 : 91.

No species of this genus in the restricted sense are recorded from Nepal, but I include it in the key and mention it here because usually *Elaphropeza* and *Crossopalpus* are regarded as subgenera of *Drapetis* s. l. In the present paper the three groups are treated as subgenera, *Elaphropeza* and *Crossopalpus* being represented in Nepal.

Subgenus **ELAPHROPEZA** Macquart

*Elaphropeza* Macquart, 1827, *Insect. Dipt. Nord France*, 3 : 86.  
*Ctenodrapetis* Bezzi, 1904, *Annls hist.-nat. Mus. natn. hung.* 2 : 355.

This subgenus is best represented in the Oriental region, but it is also well represented in N. and S. America, Africa and Australia, though only one species occurs in the Palaearctic Region. Six species are now described from Nepal.

KEY TO NEPALESE SPECIES OF *Elaphropeza*

1	Thorax entirely black, two or three dorsocentral bristles distinct . . . . .	<b>kala</b> sp. n.
-	Thorax mostly reddish yellow; dorsocentral bristles inconspicuous except for a strong prescutellar bristle . . . . .	2
2 (1)	Arista densely long pubescent and thus appearing thicker, as an extension to the third antennal segment; smaller species (1 mm.) . . . . .	<b>uralo</b> sp. n.
-	Arista normal, slender; usually larger species (1.25 mm. or more) . . . . .	3
3 (2)	Thorax and scutellum yellow . . . . .	4
-	Thorax or scutellum partly black . . . . .	5
4 (3)	Antennae completely yellow; occiput yellow . . . . .	<b>coei</b> sp. n.
-	Third antennal segment black; occiput black . . . . .	<b>litoralis</b> sp. n.
5 (3)	Head reddish yellow except for black frons; thorax reddish yellow, scutellum black . . . . .	<b>ukhalo</b> sp. n.
-	Head black, thorax reddish yellow with a large black spot on each side above wing bases; scutellum yellow . . . . .	<b>sanguensis</b> sp. n.

*Drapetis (Elaphropeza) kala* sp. n.

♀. Head shining black, lightly dusted behind, but shining on a very broad postocular band on upper two-thirds. Occiput with sparse short yellow hairs. Frons about twice width of an ocellus above, narrowing to slightly more than width of an ocellus below. Face linear. Ocellar bristles rather weak, crossing, with a pair of weak hairs behind. A pair of strong yellow outer vertical bristles and a weak inner pair. Antennae with first and second segments yellow; third segment black with base somewhat yellowish, short, less than twice as long as broad at base. Arista black, pubescent and a little less than twice antennal length. Proboscis short, brown. Palpi yellow, about two-thirds length of proboscis.

Thorax shining black (a very light dusting is evident under higher magnification), with yellow bristles. Acrostichals absent; dorsocentrals uniserial, the 3 or 4 posterior bristles strong; a notopleural and a supra-alar present. Scutellum shining black on disc with margins lightly dusted and with a pair of crossing apical bristles.

Abdomen yellowish at base, but otherwise shining black, with very light microscopic dusting and some rather long dark hairs.

Legs slender, yellow except for last tarsal segment on all legs. Preapical anterior bristle distinct on middle femora. Middle tibiae with an anterodorsal bristle at middle. Hind tibiae with two anterodorsal bristles, a little closer to each other than either is from the ends of the tibia; apical process brownish, short and broad, but pointed.

Wings clear with yellow veins. Third costal section about twice length of second section. Halteres yellow.

♂ unknown.

Length 1.5 mm.

Holotype ♀. NEPAL: Taplejung District, between Sangu and Tamrang, mixed plants by damp cliff in deep river gorge, c. 5,200', i-ii. 1962 (*R. L. Coe*).

Paratype ♀. Taplejung Distr., Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962 (*R. L. Coe*).

This species resembles *E. basalis* Bezzi (1904: 349), from Colombo, in size and in its predominantly black colour with yellowish base to the abdomen. It is apparently distinguished from that species by the anterodorsal bristle on the middle tibia, and the presence of two, instead of one, anterodorsal bristles on the hind tibia. The number and position of these bristles is somewhat variable within the genus, but firm differences are the shorter wings in *E. basalis* and the relative lengths of the second and third costal sections, the second vein ending midway between the first and third veins in Bezzi's species. Bezzi's type, a unique female, was in the Hungarian Museum, Budapest, but was destroyed in the autumn of 1956.

The specific name is a Nepalese word meaning "black".

*Drapetis (Elaphropeza) uralo* sp. n.

♂. Head shining black, only lightly dusted around neck. Frons slightly wider than an ocellus above and about as wide as an ocellus below. Face linear. Ocellar bristles sub-parallel with a pair of tiny hairs behind. A pair of strong outer vertical bristles and a weak inner pair. Antennae with first and second segments yellow; third segment black, about twice as long as broad; arista about twice length of third antennal segment, black with rather long pubescence which gives it a thickened appearance, like an extension of the third antennal segment. Proboscis yellowish, about half as long as head is deep. Palpi whitish, a little more than half as long as proboscis and with whitish hairs.

Thorax reddish yellow with a sub-triangular blackish patch above each wing base. The only

obvious thoracic bristles are the single notopleural and the prescutellar dorsocentral. Pleurae reddish yellow with a blackish patch above the middle and hind coxae. Scutellum reddish yellow with a pair of crossing apical bristles.

Abdomen yellowish except for blackish middle segment and hypopygium.

Legs with coxae whitish, but otherwise yellow except for the last four tarsal segments of the front legs and the last tarsal segment of the remaining legs which are black. Middle femora with a distinct apical bristle. Middle tibiae with a distinct anterodorsal bristle at middle. Hind tibiae with two anterodorsal bristles which are obviously closer to each other than either is from the ends of the tibia; apical process short, but pointed.

Wings clear, veins yellow. Third costal section about twice as long as second costal section. Halteres yellow.

♀ unknown.

Length 1 mm.

Holotype ♂. NEPAL: Arun Valley, east shore of R. Arun below Tumlingtar, c. 1,800', evergreen shrubs bordering dry stream beds, 14-23.xii.1961 (R. L. Coe).

Paratypes: 2 ♂, same data as Holotype.

This species resembles *E. metatarsata* Bezzi (1904: 348) from Ceylon, in having a black thoracic spot on each side, but in that species these spots are rounded, the knobs of the halteres are black, and Bezzi described the arista as microscopically pubescent. Other species with paired black thoracic spots (*E. sanguensis* sp. n. is separated in the key) may be distinguished as follows: *E. obliquinervis* Meijere from Nonkodjadjar, has a very oblique hind crossvein (*vide* Meijere, 1913, pl. 2, fig. 19) and *E. scutellaris* Bezzi (1912: 487) is a larger (2-2.2 mm.) species; both species apparently have a normal arista.

The specific name is from a Nepalese word meaning "down-hill".

### *Drapetis (Elaphropeza) coei* sp. n.

(Text-fig. 1)

♂, ♀. Head reddish yellow and dusted yellow except for dull black frons and ocellar triangle. Frons narrow, barely as wide as an ocellus; eyes contiguous beneath antennae. Ocellar bristles fairly strong and the posterior pair of ocellar hairs are longer and stronger than usual. Two pairs of vertical bristles, inner pair stronger, and there are also 4 short bristles between the inner verticals. Antennae completely yellow, third segment about 1½ times as long as broad at base; arista twice antennal length. Proboscis short, yellowish. Palpi pale yellow, about half length of proboscis.

Thorax yellow. A pair of distinct, though small, upright acrostichal bristles at extreme front of thorax, but about 10 rows of hairs between the line of the dorsocentrals. Dorsocentrals uniserial with two distinct bristles behind in each row, the prescutellar being the stronger. A strong notopleural with a weaker bristle below, a supra-alar and a weak postalar. Pleurae reddish yellow. Scutellum reddish yellow with a pair of crossing apical bristles and a very weak outer pair.

Abdomen yellowish with middle segment blackish. Hypopygium yellowish.

Legs yellow except for last two tarsal segments on all legs. Preapical bristle distinct on middle femora. Hind tibiae with two (sometimes three) bristles closer to each other than either is from the tibial extremities; apical process short and broad.

Wings clear, veins yellowish. Third costal section only slightly longer than second section (about 1.2:1). Halteres yellow.

Length 1.5 mm.

Holotype ♂. NEPAL: Taplejung District, between Sangu and Tamrang, mixed plants by damp cliff in deep river gorge, c. 5,200', 22.xi.1961 (*R. L. Coe*).

Paratypes: 27 ♂, 71 ♀, same data as Holotype; Taplejung District, between Sangu and Tamrang, mixed shrubs in deep gorge, c. 5,200', x-xi.1961, 4 ♂, 10 ♀ (*R. L. Coe*); Taplejung District, below Sangu, c. 4,000', mixed vegetation on sheltered slopes above river, 3.i.1962, 3 ♂, 14 ♀ (*R. L. Coe*); Taplejung, between Sangu and Tamrang, deep river gorge, c. 5,200', x-xi.1961, 2♂, 5 ♀; Taplejung, between Sangu and Tamrang, wet boulder shaded permanently, in deep river gorge, c. 5,200', 14.ii.1962, 1 ♀ (*R. L. Coe*); Taplejung, north of Sangu, dry grass above river bank, c. 5,000', 5.i.1962, 1 ♀ (*R. L. Coe*).

This species resembles *E. metatarsata* Bezzi (1904:348) from Ceylon and *E. variegata* Brunetti (1913:42) from India in the colour of the abdomen, but both these species have dark thoracic markings and a black head. *E. fulvithorax* van der Wulp (1897:138) from Ceylon has the thorax completely yellowish red, but the abdomen is brown and the tips of the hind tibiae are blackish.

### *Drapetis (Elaphropeza) litoralis* sp. n.

♂, ♀. Head black, heavily dusted greyish, but narrowly shining behind eye margins on upper third. Frons very narrow, less than width of an ocellus. Face linear. Ocellar bristles short with a pair of very tiny hairs behind. A pair of distinct vertical bristles. Antennae black, first and second segments somewhat paler in some lights. Third segment a little more than twice as long as broad at base. Arista dark, pubescent and slightly less than twice antennal length. Proboscis very short, brownish, palpi short, rounded and whitish, each with a long terminal bristle.

Thorax shining reddish yellow, only dusted around margins. Acrostichals biserial. Dorsocentrals uniserial, a little longer than usual, but only the one strong prescutellar bristle. Two notopleural bristles, upper one stronger. Pleurae shining reddish yellow, somewhat dusted below. Scutellum reddish yellow, dusted, and with a pair of strong apical bristles.

Abdomen brownish, with two basal segments yellowish, dusted and with short pubescence. Hypopygium dark brownish.

Legs with femora yellowish, tibiae and tarsi brownish. Middle femora with distinct preapical anterior bristle. Hind tibiae with two strong anterodorsal bristles about middle.

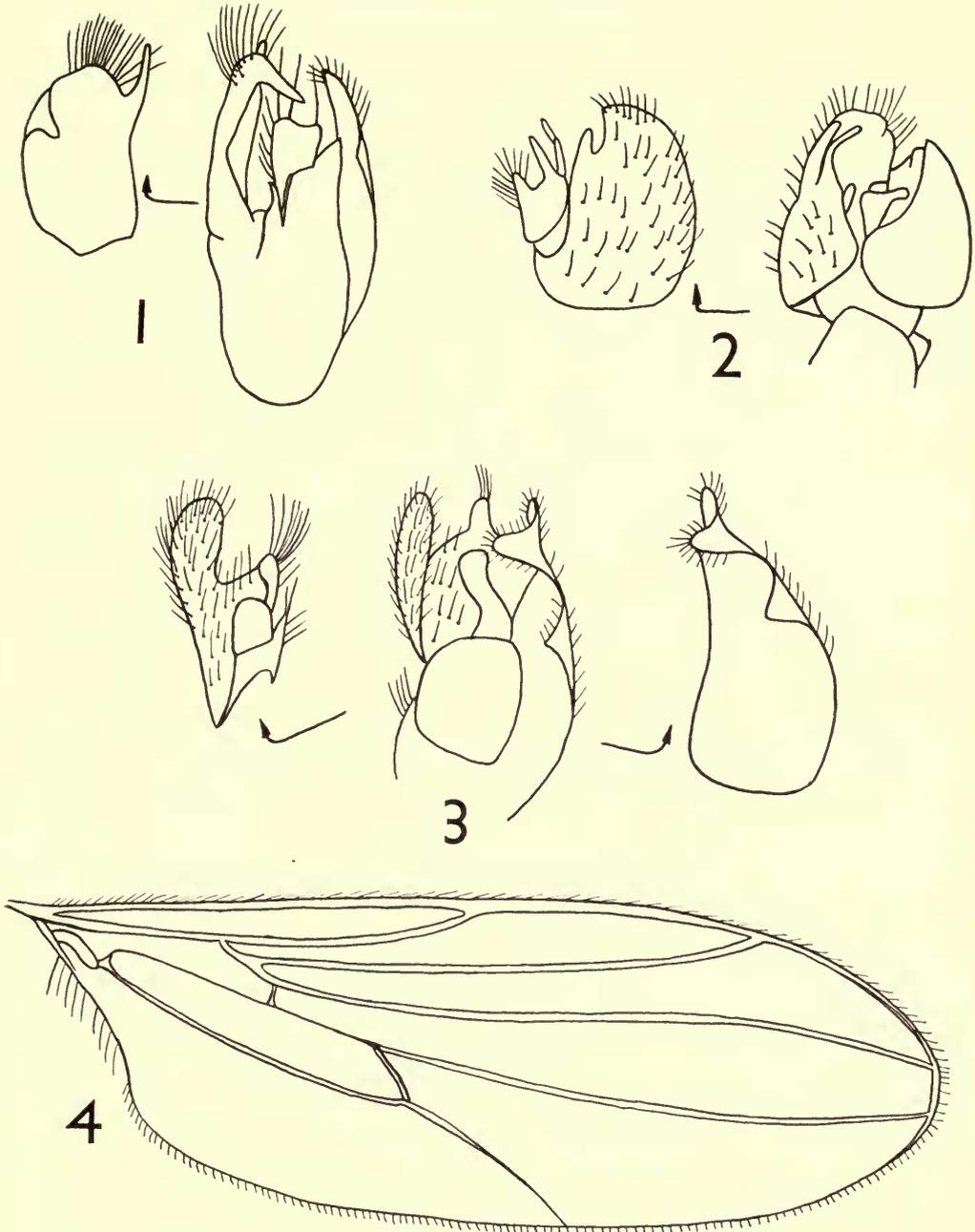
Wings clear with veins brown. Third costal section about twice length of third. Halteres yellow.

Length 1.25 mm.

Holotype ♂. NEPAL: Arun Valley, below Tumlingtar, River Sabhaya, west shore, c. 1,800', dead leaves lying in sun on sandy shore, 22.xii.1961 (*R. L. Coe*).

Paratypes: 2 ♂, same data as Holotype; Arun Valley, below Tumlingtar, River Sabhaya, west shore, c. 1,800', evergreen shrubs on sandy shore, 9-17.xii.1961, 1 ♀ (*R. L. Coe*).

The brownish abdomen with yellow base distinguishes this species from any Indian species. *E. fulvithorax* van der Wulp (1897:138), which the species most resembles, has the abdomen entirely brown and the hind tibiae have black tips.



FIGS. 1-4. *Drapetis (Elaphropeza) coei* sp. n. 1, ♂ hypopygium: *D. (E.) sanguensis* sp. n. 2, ♂ hypopygium: *D. (E.) ukhalo* sp. n. 3, ♂ hypopygium showing details of epandrium: *Drapetis (Crossopalpus) kholsa* sp. n. 4, ♀ wing.

*Drapetis (Elaphropeza) sanguensis* sp. n.

(Text-fig. 2)

♂, ♀. Head black, dusted greyish except for broad shining postocular orbits on upper half. Occiput with some short yellow hairs. Frons narrowing from about  $1\frac{1}{2}$  times width of an ocellus above to width of an ocellus below; face linear. A strong pair of incurved anterior vertical bristles and a weak inner pair. An anterior pair of strong ocellar bristles with a very weak pair behind. Antennae with first and second segments yellow; third segment blackish and about  $2\frac{1}{2}$  times as long as broad at base; arista blackish, short pubescent and a little less than twice antennal length. Proboscis very short, brown. Palpi short, pale yellow and pale haired.

Thorax shining reddish yellow with a large elliptical black spot on each side above wing bases. A pair of short acrostichals at front of thorax; dorsocentrals uniserial, short except for a strong prescutellar bristle; a strong notopleural with a weaker bristle below. Pleurae reddish yellow with a brownish patch on each of the sternopleurae and hypopleurae, above the middle and hind coxae. Scutellum and metanotum yellow, the former with a pair of long slender crossing apical bristles.

Abdomen black, except for whitish second segment. Hypopygium black.

Legs (including coxae) yellowish, except for tarsi, knees, and hind femora in front distally, all of which are somewhat brownish. All femora slender. Middle femora with distinct preapical anterior bristle. Tibiae slender; hind tibiae with two strong anterodorsal bristles. Posteroventral apical process on hind tibiae brown, short and blunt.

Wings clear, veins brownish. Third costal section about 3 times length of second costal section. Halteres yellow.

Length 2 mm..

Holotype ♂. NEPAL: Taplejung District, between Sangu and Tamrang, mixed plants by damp cliff in deep river gorge, c. 5,200', 22.xi.1961 (*R. L. Coe*).

Paratypes: 79 ♂, 67 ♀, same data as Holotype; Taplejung District, between Sangu and Tamrang, mixed shrubs in deep gorge, c. 5,200', x-xi.1961, 1 ♂, 1 ♀ (*R. L. Coe*); Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi.1961-i.1962, 1 ♂, 3 ♀ (*R. L. Coe*); Taplejung District, north of Sangu, dry grass above river bank, c. 5,000', 5.i.1962, 8 ♂, 8 ♀ (*R. L. Coe*); Taplejung District, Dobhan, east bank of River Tamur, c. 3,500', mixed vegetation by stream in deep gully, i-ii.1962, 1 ♂ (*R. L. Coe*); Arun Valley, east shore of River Arun below Tumlingtar, c. 1,800', swept from *Ricinus communis* L., 23.xii.1961, 1 ♀ (*R. L. Coe*); Arun Valley, east shore of River Arun below Tumlingtar, c. 1,800', evergreen shrubs bordering dry stream beds, 14, 23.xii.1961, 3 ♀ (*R. L. Coe*); 2 miles SW. of Ulleri, 6,000-7,000', 18.v.1954, 1 ♂ (*J. Quinlan*); Ghanpokhara, 5,500-7,000', 2.v.1954, 2 ♂ (*J. Quinlan*).

This species resembles *E. metatarsata* Bezzi (1904: 348) from Colombo, in having two black marks on the otherwise reddish yellow thorax and in the long slender hind metatarsi. However, Bezzi's species is a little longer, has round thoracic spots, a tooth and bristle at the base of the hind metatarsus and the halteres have dark knobs. Bezzi's type, a unique female, was in the Hungarian Museum, Budapest, but is now destroyed.

*D. (E.) sanguensis* is also very similar to the only known Palaearctic species, *E. ephippiata* Fallén, but in that species the sternopleurae are reddish yellow, the scutellum and metanotum are black, the hind metatarsus is thicker, and the hypopygium (*vide* Collin, 1961: 41, fig. 16) is quite different.

This species closely resembles *D. (E.) binotata* Meijere, of which I have seen the type ♀, but that species has no black markings on the pleurae.

***Drapetis (Elaphropeza) ukhalo* sp. n.**

(Text-fig. 3)

♂. Head yellow and dusted yellowish except for dull blackish frons and ocellar triangle. Frons at widest point, above barely wider than an ocellus and about half this width below. Eyes contiguous below antennae. Ocellar bristles weak, crossing, with a pair of tiny hairs behind. Vertical bristles weak, the inner pair hardly distinguishable from the other pale hairs on the occiput. Antennae with first and second segments yellow; third segment black, elongate, about four times as long as broad at base; arista black, pubescent, and only slightly longer than third antennal segment. Proboscis short, brownish. Palpi short, yellow and with yellow hairs.

Thorax shining reddish yellow. Acrostichal hairs quadriserial; dorsocentrals uniserial, hairlike except for a strong prescutellar bristle. A strong notopleural with two weaker bristles below and a weak postalar. Pleurae reddish yellow except for black hypopleurae. Scutellum black with corners yellow and with a pair of strong apical bristles and weak outer pair.

Abdomen pale yellow except for blackish middle segment and hypopygium.

Legs completely yellow. Femora thickened. Middle femora with preapical anterior bristle distinct and with tiny black points ventrally, which are multiserial on basal half, but become uniserial distally. Hind femora with short but distinct anteroventral bristles, those towards tip of femur are blackish. Hind tibiae somewhat thickened, with two strong anterodorsal bristles, which are closer to each other than either is from the ends of the tibia; apical process broad and short. Hind basitarsus with at least one short, but distinct, bristle below.

Wings clear, veins yellow. Third section of costal vein  $1\frac{1}{2}$  times length of second section. Halteres yellow.

♀ unknown.

Length 2.5 mm.

Holotype ♂. NEPAL: Taplejung District, river banks below Tamrang Bridge, c. 5,500', x-xi. 1961 (R. L. Coe).

Paratypes: Taplejung District, between Sangu and Tamrang, mixed plants by damp cliff in deep river gorge, c. 5,200', i-ii. 1962, 2 ♂ (R. L. Coe); Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962, 1 ♂ (R. L. Coe).

This species resembles *E. metatarsata* Bezzi (1904: 348) from Ceylon, and *E. variegata* Brunetti (1913: 42) from India, in having a yellow abdomen with the middle segment black, but in both these species the head is black. *E. xanthocephala* Bezzi (1912: 488) from Formosa is also similar and has a yellow head, but the metapleurae and the knobs of the halteres are black.

The specific name is a Nepalese word meaning "up-hill".

Subgenus **CROSSOPALPUS** Bigot

*Crossopalpus* Bigot, 1857, *Annls Soc. ent. Fr.* 5: 563.

*Eudrapetis* Melander, 1918, *Ann. ent. Soc. Am.* 11: 187.

Brunetti (1920:380) regarded *Crossopalpus* as a synonym of *Drapetis*, but none of the Indian species included by him under *Drapetis* appear to be referable to *Crossopalpus*.

Collin (1960: 387), in a discussion of the *C. aenescens* Wiedemann complex, described *C. hirtipes* from Southern India.

The subgenus is world-wide in distribution. One species is now described from Nepal.

***Drapetis (Crossopalpus) kholsa* sp. n.**

(Text-fig. 4)

♀. Head black, heavily dusted grey, but shining on narrow postocular margins on upper half, and about mouth. Wide jowls below eyes. Frons about twice width of an ocellus above, narrowing to width of an ocellus below. Face very narrow, eyes closest together just below half way down from antennae, then face widening above mouth. An erect pair of divergent ocellar bristles, but no vertical bristles. Occiput with only a few extremely short hairs. Antennae with first and second segments yellow, second segment with a strong bristle beneath, third segment black, about as long as first and second segments together and with some distinct hairs below on distal half. Arista black, nearly 3 times antennal length. Proboscis short, brown. Palpi small, rounded and blackish.

Thorax black, lightly dusted but subshining and clothed with short pale hairs. A distinct prescutellar dorsocentral, two notopleurals and a postalar. Pleurae shining black except for a thin line of dust from middle coxa up to join dusted area at base of halteres, and thin bands of dust around all coxae. Scutellum black, dusted yellowish with a pair of strong marginal bristles with a tiny pair between and another tiny pair outside.

Abdomen with basal segment shining black and bare, remaining segments brownish, shining on disc, but dusted around margins and short haired.

Legs yellowish. Front and middle tibiae and all tarsi more brownish. Front femora slightly swollen. Anterior preapical bristle more or less distinct on all femora. Front and middle tibiae with antero- and posteroventral apical bristles. Hind tibiae with large apical process and a short apical anterior bristle.

Wings clear, veins brownish except for crossvein *r-m* and basal section of vein *M*. Vein *Rs* very short, second costal section a little longer than third section. Veins *R*<sub>4+5</sub> and *M* distinctly bent towards each other distally. Halteres yellow.

♂ unknown.

Length 2 mm.

Holotype ♀. NEPAL: Arun Valley, east shore of River Arun below Tumlingtar, c. 1,800', evergreen shrubs bordering dry stream bed, 14-23.xii.1961 (*R. L. Coe*).

Paratype: ♀, same data as Holotype.

This species resembles the Palaearctic species *D. (C.) minima* Meigen (1838: 100) and *D. (C.) humilis* Frey (1913: 69) in having no anterodorsal bristles on the hind tibia. The longer arista and paler legs put this species closer to *D. (C.) humilis*, but *D. (C.) kholsa* is distinguished from both species by the longer wing, the equally convergent *R*<sub>4+5</sub> and *M*, and *r-m* being nearer the middle of the cell *M*.

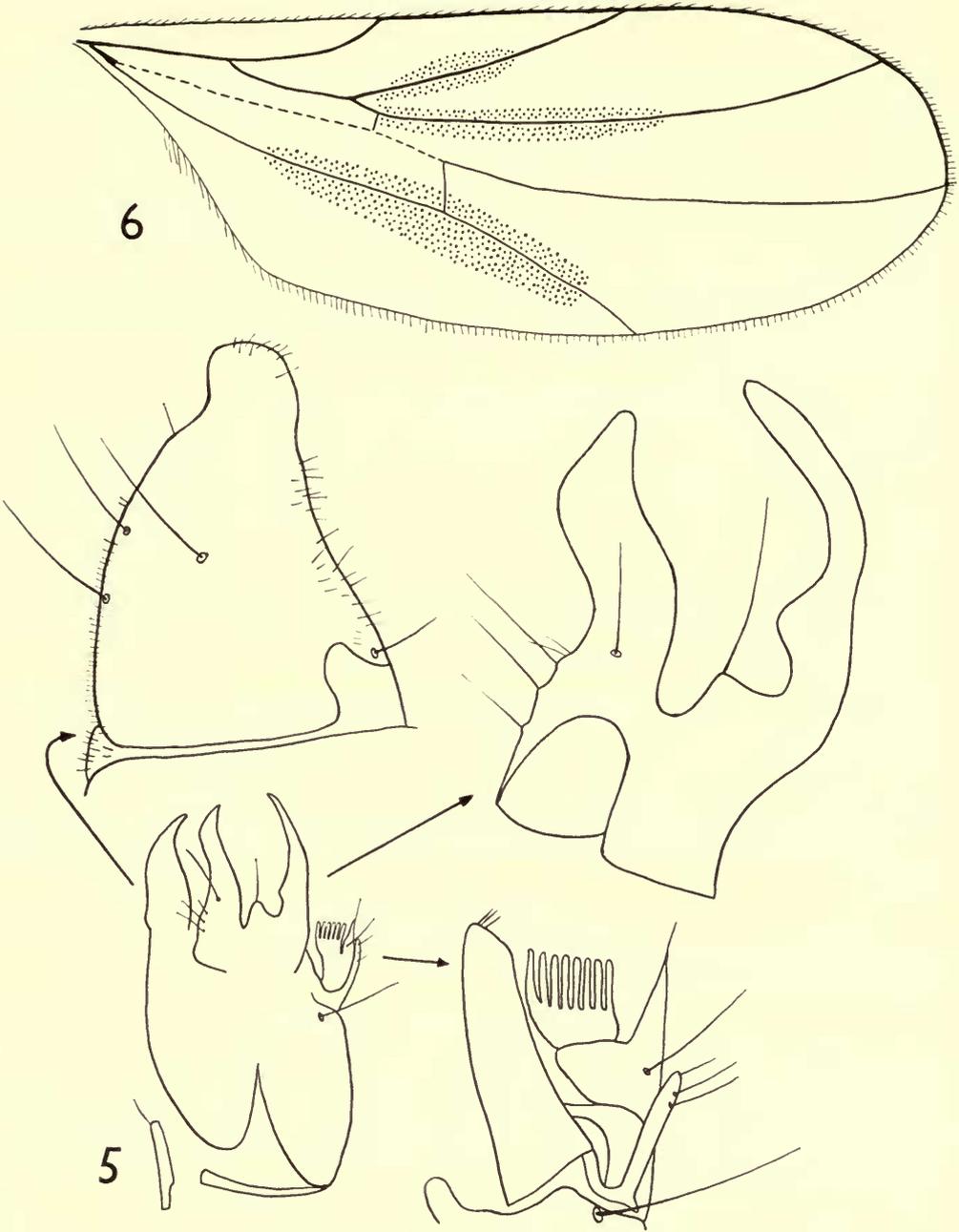
The specific name is a Nepalese word meaning "valley".

***STILPON* Loew**

*Stilpon* Loew, 1859, *Neue Beitr. Kenntn. Dipt.* 6: 34.

This genus has five, possibly seven (Smith, 1965) known Palaearctic species and is otherwise only recorded from the United States of America and South Africa.

One species is now described from Nepal.



FIGS. 5-6. *Stilpon divergens* sp. n. 5, ♂ hypopygium showing enlarged details of epan-drium and cerci; 6, ♂ wing.

*Stilpon divergens* sp. n.

(Text-figs. 5, 6)

♂. Head black, heavily dusted greyish. Frons about 3 times width of an ocellus, eyes contiguous below antennae. A pair of tiny, slightly convergent ocellar bristles with two pairs of tiny bristles behind. A pair of short crossing vertical bristles. Occiput with sparse short hairs above and a few longer pale bristly hairs behind mouth. Antennae with first and second segments yellow, second segment with 2 strong bristles below, one short, one long; third segment black, extremely short, shorter than second segment and with a few longish hairs at tip. Arista black, subapical, 3 times antennal length and pubescent. Proboscis brown, about one-third head height. Palpi short, yellow and with a strong black apical bristle.

Thorax black, dusted greyish. Disc of thorax with about 6 rows of short brownish bristly hairs. A distinct humeral, a tiny posthumeral, a distinct notopleural and a distinct postalar. Pleurae black, dusted greyish. Scutellum black, dusted greyish with a pair of fairly strong convergent apical bristles.

Abdomen pale and fleshy except for the black complex hypopygium.

Legs (including coxae) yellow except for slightly darkened front tibiae and blackish distal three-quarters of hind femora and last tarsal segment of all legs. Front femora strongly swollen and with some posteroventral bristles. Middle femora with a strong preapical anterior bristle and 3 posteroventral bristles on basal half. Hind femora with a row of short slender anteroventral bristles, two or three of which, towards tip, are longer. Legs otherwise rather short haired.

Wings clouded brownish about veins. Vein  $R_{2+3}$  joining costal vein beyond centre of wing. Main veins divergent. Halteres with yellow stem and black knob.

♀ similar to male, but terminal abdominal segments laterally compressed; anal papillae with some rather long bristly hairs.

Length 1 mm.

Holotype ♂. NEPAL: Taplejung District, between Sangu and Tamrang, mixed shrubs and plants by damp cliff in deep river gorge, c. 5,200', x-xi. 1961 (R. L. Coe).

Paratypes: 4 ♀, same data as Holotype.

This species may be distinguished from all Old World species by the long vein  $R_{2+3}$  which joins the costal vein beyond the middle of the wing and by the distinctive genitalia.

*SICODUS* Rafinesque

*Sicodus* Rafinesque, 1815, *Analyse de la Nature*, 130.

*Tachista* Loew, 1864, *Z. Ent.* 17: 15.

This genus is mainly a Palaearctic one, but also occurs in Africa, Formosa and North America. Brunetti (1920: 375-376) described *Tachydromia latifascipennis* from India, but I have studied specimens in the British Museum determined by Brunetti and they clearly belong to *Sicodus*. Only one species was taken on the Nepal Expeditions, represented by a damaged female, belonging to the *S. annulimanus* Mg.—*S. calceana* Mg. group.

*Sicodus* sp.

Shining black species, dusted about neck and on scutellum, thoracic bristle strong. Legs with coxae yellow; front femora yellow; middle and hind femora black; all tibiae blackish;

tarsi yellow except for darkened last two segments. Wings with the two dark transverse bands broadly joined along anterior edge.

NEPAL: Arun Valley, below Tumlingtar, River Sabhaya, west shore, c. 1,800', evergreen shrubs on sandy shore, 9-17.xii.1961, 1 ♀ (*R. L. Coe*).

### TACHYDROMIA Meigen

*Tachydromia* Meigen, 1803 in Illiger, *Mag. Ins.* 2: 269.

*Platypalpus* Macquart, 1827, *Mém. Soc. Sci. Lille*, 3: 92.

*Howlettia* Brunetti, 1913, *Rec. Ind. Mas.* 9: 23

*Tachydromia* is almost world-wide in distribution, but is best represented in the northern temperate regions. *T. nepalensis* (Brunetti) has previously been described from Nepal (Brunetti, 1913, 1920) and 7 new species are now described.

#### KEY TO NEPALESE SPECIES OF *Tachydromia*

- |       |  |                              |
|-------|--|------------------------------|
| 1     | Large (4.0 mm.) species with very long palpi (Text-fig. 7)   | <i>brunettii</i> (Melander)  |
| -     | Smaller (2.0 mm.) species with smaller palpi   | 2                            |
| 2 (1) | Thorax black   | 3                            |
| -     | Thorax partly yellow   | 7                            |
| 3 (2) | Costa intensely blackened for basal 2/3 between end of vein $R_1$ and end of vein $R_{2+3}$ (Text-fig. 10)                 | 4                            |
| -     | Costa not as above   | 5                            |
| 4 (3) | Antennae black. Tibiae black, front and middle femora with a black band. Male genitalia large                              | <i>tapa</i> sp. n.           |
| -     | First and second antennal segments yellow. Legs yellow. Male genitalia small   | <i>sanguensis</i> sp. n.     |
| 5 (3) | Middle and hind femora black on apical half and all tibiae blackish  | <i>shealsi</i> sp. n.        |
| -     | Legs with less extensive black markings  | 6                            |
| 6 (5) | Legs of male yellow  | <i>taplejungensis</i> sp. n. |
| -     | Front and hind femora blackish above at tip. Middle femora brownish on anterior face                                       | <i>kosi</i> sp. n.           |
| 7 (2) | Thorax reddish yellow with a black median stripe which broadens posteriorly to include whole of scutellum                  | <i>quinlani</i> sp. n.       |
| -     | Thorax without a black median stripe   | 8                            |
| 8 (7) | Thorax entirely reddish yellow, scutellum black  | <i>narangi</i> sp. n.        |
| -     | Thorax with a short black streak above each wing, apparently joined behind by an irregular blackish mark, scutellum yellow | <i>nepalensis</i> Brunetti   |

### *Tachydromia brunettii* (Melander)

(Text-fig. 7)

(*Platypalpus brunettii* Melander, 1927, *Gen. Ins.* 185: 349 [n.n. for *H. flavipes* Brunetti; 1913: 23])

♀. Head black, completely and heavily dusted greyish except for shining frons and face. Frons twice ocellar width at level of front ocellus, narrowing to ocellar width below. Face about as wide as an ocellus. Occiput rather densely pale haired above and with long pale bristly hairs below. A pair of widely divergent ocellar bristles and two pairs of small vertical bristles. Antennae dark brownish; first segment longer than second segment and third segment short, hardly as long as first and second segments together and hairy. Arista black, long, about  $2\frac{1}{2}$  times antennal length and obviously pubescent. Proboscis about half head height, brownish. Palpi yellow and very large, with fine pale hairs.

Thorax black, only lightly dusted and subshining on disc, but heavily and broadly dusted around margins, over humeri and on a triangle behind humeri. Thorax with even short pale pubescence; a slender prescutellar dorsocentral; two notopleurals, upper one stronger; a weak postalar. Pleurae black, densely dusted greyish, but sternopleurae shining black except for upper hind corner. Scutellum black, dusted greyish, with a pair of crossing apical bristles and a weak outer pair of hairs.

Abdomen tergites black, sternites pale brownish; clothed with sparse pale hairs.

Legs (including coxae) yellow, except for last four tarsal segments of all legs which are darkened. Front femora slightly swollen. Middle femora strongly swollen with two ventral rows of short black spines and a posteroventral row of bristles. Hind tibiae distinctly curved. Legs short haired without outstanding bristles other than those described on middle femora.

Wings clear, veins brown. Veins  $R_{4+5}$  and  $M$  very gently convergent distally. Halteres yellow.

♂ unknown.

Length 4 mm.

NEPAL: Taplejung District, damp evergreen oak forest above Sangu, *c.* 8,500', 2-26.xi.1961, 1 ♀. (*R. L. Coe*).

This large species resembles *T. orientalis* Brunetti (1920 : 378) from Darjiling and *T. valens* Melander (1927 : 366) from Java, but the former has a parallel-sided dusted frons and the latter has a linear face and a large tibial spur. Compared with type ♀, Mussoorie, in British Museum (Nat. Hist.).

### *Tachydromia tapa* sp. n.

(Text-fig. 8)

♂. Head black, dusted greyish except for the shining frons. Frons about twice ocellar width, narrowing to slightly more than ocellar width above antennae. Face narrow, only half as wide as an ocellus. A pair of divergent ocellar bristles. Occiput pale haired, the hairs on lower part longer. Antennae black, third segment elongate, twice length of first and second segments together; arista black, about three-quarters length of third segment. Proboscis black, rather slender and a little more than half as long as head is deep. Palpi yellow, about half as long as proboscis.

Thorax: shining black, with sparse microscopic pubescence; anteriorly the hairs in the outer acrostichal series are directed outwards, all other hairs being directed backwards. Heavily dusted on a very narrow transverse band in front of scutellum. The only distinct bristles are two notopleurals, the uppermost being the stronger and a weak prescutellar dorsocentral. Pleurae black, dusted greyish, but sternopleuron and mesopleuron largely shining. Scutellum black, dusted greyish with a pair of crossing apical bristles and a weaker outer pair.

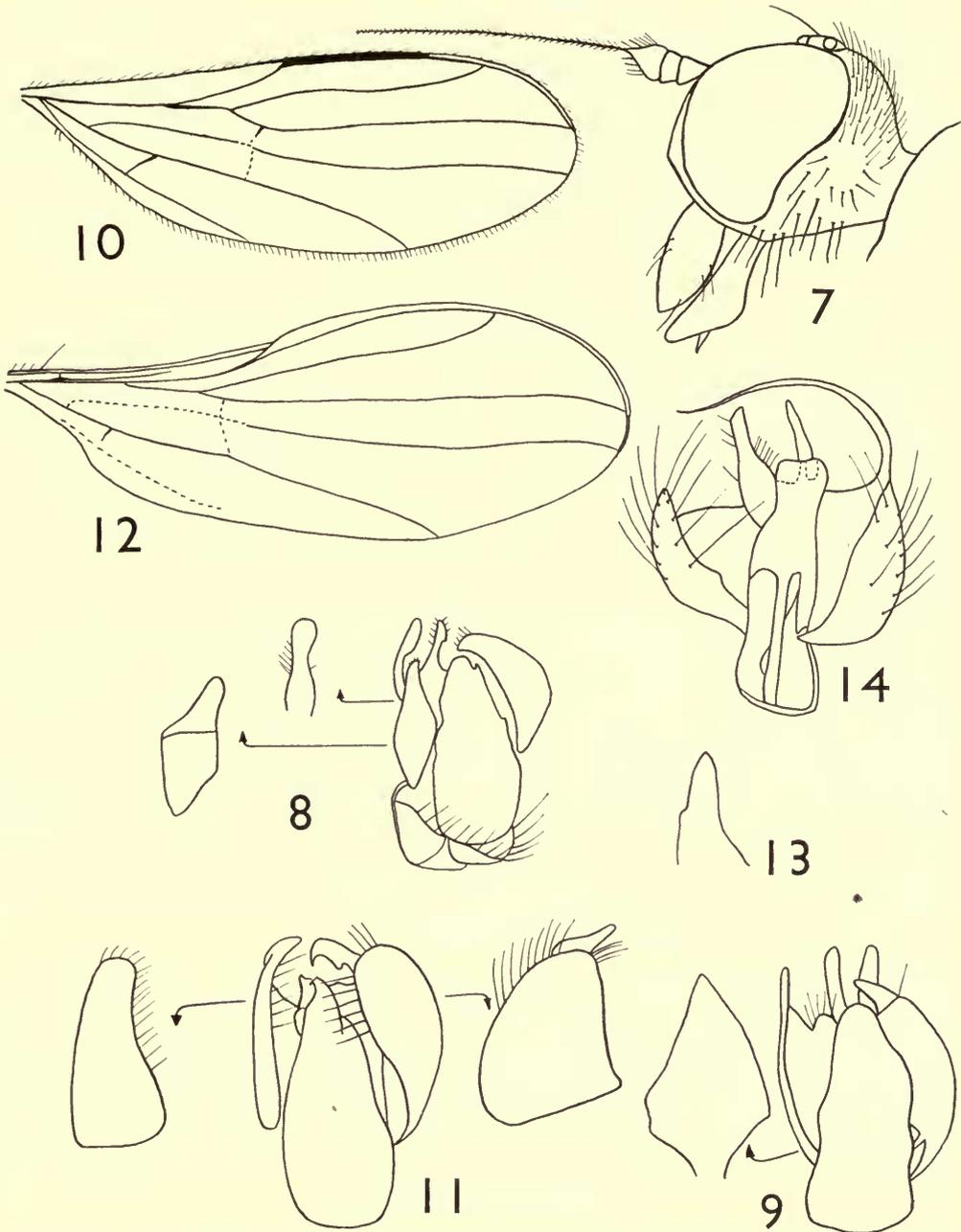
Abdomen shining black with sparse short pale hairs and a fringe of longer hairs on the pregenital sternite. Hypopygium large and black, dusted greyish.

Legs coxae yellow. Front femora yellow. Middle femora only slightly swollen, yellow, with a broad black band beyond middle; hind femora with a black preapical band. All tibiae black, more or less yellowish at base; tarsi black. Front tibiae with very short erect bristles above on distal half.

Wings clear, veins brownish, but second costal section intensely blackened on basal three-quarters. Cells  $R$  and  $M$  of equal length. Veins  $R_{4+5}$  and  $M$  gently diverging basally, but almost parallel distally. Halteres yellow.

♀ unknown.

Length 2 mm.



FIGS. 7-14. *Tachydromia* spp. *T. brunettii* (Mel.) 7, head: *T. tapa* sp. n. 8, ♂ hypopygium showing orientated details of epandrium and cercus: *T. sanguensis* sp. n. 9 ♂ hypopygium; 10, wing: *T. shealsi* sp. n. 11, hypopygium showing details of epandrium; 12, wing: *T. kosi* sp. n. 13, lateral lamella of epandrium of hypopygium: *T. taplejungensis* sp. n. 14, hypopygium.

Holotype ♂. NEPAL : Taplejung District, damp evergreen oak forest above Sangu, c. 9,200', 2-26.xi.1961 (R. L. Coe).

This and the following species resemble *T. gentilis* Brunetti (1920 : 377) from Darjiling and Simla, but that species has the scutellum shining black and the costa is not darkened on the basal three-quarters. The costal character is reminiscent of the European *T. stigmatella* Zetterstedt, but that is a larger (2.5-3.0 mm.) species, with yellow legs, a shining black head and different genitalia.

The specific name is a Nepalese word meaning "summit" (of hill or mountain).

### *Tachydromia sanguensis* sp. n.

(Text-figs. 9, 10)

♂. Head black, dusted greyish, but frons only lightly so and therefore subshining. Frons 3 times ocellar width at level of first ocellus, narrowing to about slightly more than ocellar width above antennae. Face about half ocellar width. A pair of weak ocellar bristles, shorter than in *T. tapa*. Occiput with short pale pubescence above and longer pale hairs below. Antennae with first and second segments yellow; third segment black, less than twice length of first and second segments together; arista black, a little longer than third antennal segment. Proboscis brownish, slender and a little more than half as long as head is deep. Palpi whitish, about half as long as proboscis.

Thorax shining black on disc but greyish dusted around margins and over humeri, especially on a prescutellar band about as broad as third antennal segment is deep. Thoracic pubescence yellow, short and sparse; anteriorly, the hairs of the outer acrostichal series are directed outwards, but all other hairs are directed backwards. Bristles yellow. A distinct, though weak, notopleural, a similar prescutellar dorsocentral and a very weak postalar. Pleurae black, dusted greyish, but mesopleurae and sternopleurae largely shining. Scutellum black, dusted greyish with a pair of crossing apicals and a weak outer pair.

Abdomen shining black with sparse short pale hairs and a fringe of longer hairs on the pre-genital sternite. Hypopygium small and black.

Legs yellow with the last tarsal segment somewhat darkened. Middle femora only slightly swollen. Front tibiae without the short erect bristles above which are present in *T. tapa*.

Wings clear, veins brownish, but second costal section intensely blackened as in *T. tapa*. Venation otherwise resembling that species, but wings longer. Halteres pale yellow.

♀. Similar to male, except for abdominal terminalia.

Length 1.5 mm.

Holotype ♂. NEPAL : Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi.1961-i.1962 (R. L. Coe).

Paratypes : 3 ♀, same data as Holotype; Taplejung District, edge of mixed forest above Sangu, c. 6,500', 17.x-i.xi.1961, 1 ♀ (R. L. Coe); Taplejung District, between Sangu and Tamrang, mixed plants in deep river gorge, c. 5,200', 22.xi.1961, 1 ♀ (R. L. Coe).

### *Tachydromia shealsi* sp. n.

(Text-figs. 11, 12)

♂. Head black, dusted greyish. Frons nearly twice ocellar width at level of first ocellus. Face linear, broadening above mouth, silvery. Ocellar bristle divergent. Two pairs of vertical

bristles. Occiput medium haired above, with longer pale hairs below. Antennae with first and second segments yellow; third segment black, short and hairy apically below; arista sub-apical, black and a little longer than antenna. Proboscis shining black and a little more than half head height. Palpi short, black and with a strong bristle at tip.

Thorax black, lightly dusted greyish, bristles and hairs yellow. Acrostichal bristles quadriserial. Only one strong posterior dorsocentral with a few biserial hairs in front of it. A weak humeral; two notopleural bristles, lower one weaker; a weak postalar and some bristly hairs between the dorsocentrals and the notopleurals. Pleurae black lightly dusted greyish, but sternopleurae largely shining. Scutellum black, heavily dusted greyish and with two crossing apical bristles.

Abdomen shining black with a narrow band of dust across the anterior margin of each tergite, sparsely haired. Hypopygium black, dusted greyish.

Legs with coxae yellow; front femora yellow except for a blackish patch above at tip; middle and hind femora yellow on a little less than basal half, remainder black; middle femora hardly swollen; all tibiae blackish; all tarsi with first two segments yellow, remainder black. Hairs of medium length, but no outstanding bristles except for the short posteroventrals on middle femora.

Wings clear, veins brownish. Second costal section thickened on basal half. Veins  $R_{4+5}$  and  $M$  gently convergent distally.

♀ unknown.

Length 2 mm.

Holotype ♂. NEPAL: Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962 (R. L. Coe).

Paratypes: 2 ♂, same data as Holotype; Taplejung District, Sangu, spray-splashed rocks in shallow ravine, c. 6,200', 13.i. 1962, 1 ♂ (R. L. Coe).

This, and the following species, are similar to the Javanese *T. maculifemur* Meijere (1914: 78) and *T. maculifemoratus* Melander (1927: 358), but the former has a patch of dust on each side of the thorax in front of the posterior callus, brown legs and the middle femora without blackish marks, while the latter has blackish marks on only the middle legs.

### *Tachydromia kosi* sp. n.

(Text-figs. 13)

♂. Very similar to *T. shealsi*, but differing as follows: Antennae completely black; arista apical and about  $1\frac{1}{2}$  times antennal length; palpi smaller. Hypopygium very similar, but the slender lateral lamella is of a different shape. Front femora as in *T. shealsi* with an apical black spot above but middle femora moderately swollen and only obscurely blackish on anterior and posterior faces with the tips, base, dorsal and ventral surfaces yellow; hind femora obscurely blackish on anterior and posterior faces for distal half, and black above at tip; all tibiae yellow but anterior tibiae vaguely darkened about middle; tarsi with last three segments darkened. Wings with basal half of second costal section not so obviously thickened and with veins  $R_{4+5}$  and  $M$  parallel distally.

♀ unknown.

Holotype ♂. NEPAL: Taplejung District, river banks below Tamrang Bridge, c. 5,500', x-xi. 1961 (R. L. Coe).

The specific name means "river".

*Tachydromia taplejungensis* sp. n.

(Text-fig. 14)

♂. Head black, dusted greyish, frons about twice ocellar width, face a little wider than an ocellus. A pair of divergent ocellar bristles and a pair of incurved vertical bristles. Occiput with short pale hairs above and longer pale bristly hairs below. Antennae black, third segment about  $1\frac{1}{2}$  times length of first and second segments together. Arista black and only slightly longer than antenna. Proboscis black, about three-quarters head height. Palpi yellow and very small with a bristle at tip.

Thorax black, humeri and postalar calli brownish, only microscopically dusted on disc, hence subshining but more heavily dusted around margins. No distinct acrostichals as the thorax is clothed with short fine even pubescence. One distinct prescutellar dorsocentral. A tiny humeral; two notopleurals, upper one stronger and a weak postalar. Pleurae black, dusted greyish, but sternopleurae largely shining except for dusted upper margin. Scutellum black, dusted greyish with a pair of crossing apical bristles.

Abdomen blackish, short haired, but hypopygium with longer hairs and the epandrium with a long slender sickle-shaped process above.

Legs yellow, short haired; middle femora swollen, with two rows of short black spines beneath and a row of short posteroventral bristles, otherwise legs without strong bristles.

Wings clear with veins brown. Veins  $R_{4+5}$  and  $M$  parallel distally. Halteres yellow.

♀ unknown.

Length 2.5 mm.

Holotype ♂. NEPAL: Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962 (*R. L. Coe*).

Paratype: ♂, Taplejung District, below Sangu, edge of small mixed wood, c. 6,000', 4. xi. 1961 (*R. L. Coe*).

Similar to *T. gentilis* Brunetti, but that species has the scutellum shining black and the antennae brownish yellow.

*Tachydromia narangi* sp. n.

♀. Head black, heavily dusted greyish. Frons about twice ocellar width and face hardly as wide as an ocellus. A pair of slightly divergent ocellar bristles and two pairs of vertical bristles. Occiput with a few short pale hairs above and some longer pale bristly hairs below. Antennae yellow, third segment short and rounded, only as long as first and second antennal segments together. Arista black and twice antennal length. Proboscis yellow with a brown tip, about half head height. Palpi yellow, short.

Thorax orange-yellow, shining on disc, but narrowly dusted at sides and on humeri. Acrostichals irregularly biserial; dorsocentrals uniserial, longer posteriorly with a strong prescutellar; a strong notopleural with a much weaker bristle and a few hairs below; a very strong postalar bristle present. Pleurae orange-yellow but yellowish dusted except for sternopleural spot; also there is a narrow black streak down the hind margin of the sternopleuron. Scutellum black, lightly dusted, with a strong pair of crossing apical bristles and a very weak pair of outer hairs. Mesonotum black.

Abdomen with first four segments black, only lightly dusted and thus subshining; the last segment is also dark, but rather heavily dusted; remaining segment and anal papillae yellow.

Legs (including coxae) yellow except for last tarsal segment on all legs. Front femora slightly swollen; middle femora strongly swollen with two rows of black ventral spines and a posteroventral row of bristles which are long and strong on basal half. Hind femora slender, with a

ventral row of minute spaced points. Middle tibiae with an apical process as long as tibia is broad at tip, rounded apically.

Wings clear, veins yellow. Veins  $R_{4+5}$  and  $M$  very slightly convergent distally. Halteres yellow.

♂ unknown.

Length 2 mm.

Holotype ♀. NEPAL : Ghanpokhara, 5,500–7,000', 2.v.1954 (*J. Quinlan*).

This species resembles *T. nepalensis* Brunetti, but in that species there is a short black streak above each wing and the scutellum is ferrugineous.

The specific name means "orange".

### *Tachydromia quinlani* sp. n.

♀. Resembling *T. narangi*, but differing as follows : Arista shorter, hardly  $1\frac{1}{2}$  times antennal length. Thorax with a wide black median stripe, which widens posteriorly to equal width of the black scutellum and metanotum ; the upper notopleural and the postalar bristles are strong, but the prescutellar dorsocentral is not as strong as usual ; otherwise the thorax is clothed with fine, pale, rather long hairs. Abdomen shining blackish with sparse pale hairs. The black spaced points on the hind femora are longer and stronger than in *T. narangi*.

♂ unknown.

Holotype ♀. NEPAL : 2 miles SW. of Ulleri, 6,000–7,000', 18.v.1954 (*J. Quinlan*).

This species is similar to *T. ferruginea* Brunetti (1920 : 376), but in that species the head is brownish yellow, and there is an abbreviated stripe on each side of the median stripe.

### *Tachydromia nepalensis* Brunetti

*Brevios longicornis* Brunetti, 1913, *Rec. Indian Mus.* 9 : 22.

*Tachydromia nepalensis* Brunetti, 1920, *Fauna of British India*, 1 : 377 [n.n. for *B. longicornis* Brunetti].

This species was described from a unique male from Sarath, 24.ii.1908, and has not been taken since.

## HYBOTINAE

### *HYBOS* Meigen

*Hybos* Meigen, 1803 in Illiger *Mag. Ins.* 2 : 269 ; 1804, *Klass. Z. Ins.* 1 : 239.

This genus is almost world-wide in distribution, but is better represented in the Oriental and Austro-oriental regions than in the Palaearctic. Two species are now described from Nepal.

### *Hybos aimai* sp. n.

(Text-figs. 15, 16)

♀. Head black, dusted greyish. Eyes with upper facets enlarged, contiguous above antennae, but separated below antennae by a short broad face which is heavily dusted grey. A pair of distinct ocellar bristles and occiput with a postocular fringe of bristly hairs which are bent forward at tip. Occiput otherwise with short dark hairs and a few pale hairs below. Antennae

black, third segment about twice as long as broad, arista black and about twice antennal length. Proboscis dark brown, directed forwards. Palpi black, not quite as long as proboscis, and with some bristles beneath.

Thorax arched, black, heavily dusted brownish. A weak humeral bristle; acrostichals quadriserial; dorsocentrals uniserial, ending with a strong bristle on front margin of prescutellar depression; two notopleural bristles, upper one stronger; a postalar. Pleurae black, dusted greyish. Scutellum black, heavily dusted yellowish with a pair of strong black apical bristles and two outer pairs of pale hairs.

Abdomen shining black except for a narrow band of light dust on the anterior margins of tergites with sparse short dark hairs above and longer pale hairs laterally. Terminalia with a tuft of bristly hairs and a pair of upright anal papillae.

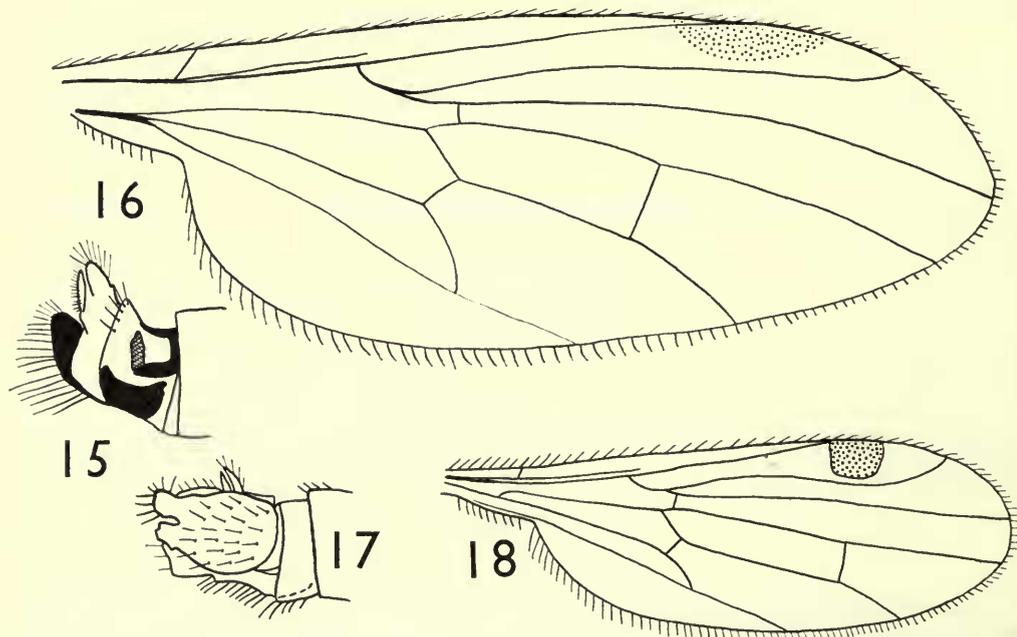
Legs shining black. Front and middle femora with pale slender posteroventral bristles. Hind femora with a black slender, anterodorsal bristle at middle and another at distal three-quarters; pale slender posteroventral bristles, longer on distal half; a row of short but strong black anteroventral bristles and a ventral row of short black tuberculate spines. Front tibiae with a short anterodorsal bristle, a long anterodorsal apical bristle, other apical bristles short. Middle tibiae with a very long anteroventral apical bristle, other apical bristles shorter; an anterodorsal bristle at middle and another near base. Hind tibiae with a very slender dorsal bristle near tip. Tarsi longer and sparser haired above, short and thicker haired below, without bristles.

Wings clear with a long faint stigma. Halteres yellow.

♂ unknown.

Length 3.5 mm.

Holotype ♀. NEPAL: Taplejung District, between Sangu and Tamrang, c. 5,500', open ground by hill stream, 20-23.x.1961 (R. L. Coe).



FIGS. 15-18. *Hybos* spp. *H. aimai* sp. n. 15, ♀ terminalia; 16, wing: *H. bhainse* sp. n. 17, ♂ hypopygium; 18, wing.

Paratypes: Taplejung District, between Sangu and Tamrang, mixed shrubs in deep gorge, c. 5,200', x-xi. 1961, 2 ♀ (*R. L. Coe*); Taplejung District between Sangu and Tamrang, mossy ground under bush by hill stream, 20.x. 1961, c. 5,500', 1 ♀ (*R. L. Coe*).

This species most resembles *H. nigronitidus* Brunetti (1920 : 342) from India, but in that species the thorax is shining black.

The specific name is a Nepalese word meaning "woman".

### *Hybos bhainse* sp. n.

(Text-figs. 17, 18)

♂. Head black, dusted brownish. Eyes with upper facets slightly enlarged, contiguous above antennae, face linear. Ocellar bristles divergent. Occiput with black bristly hairs. Antennae black, third segment a little longer than first and second segments together; arista black, about 3 times antennal length. Proboscis short, black, palpi black.

Thorax arched, black, dusted brownish but subshining on disc and humeri. Two humeral bristles, two notopleural bristles, upper one stronger; acrostichals biserial, dorsocentrals uniserial ending with a strong bristle at front margin of prescutellar depression; a postalar. Scutellum shining black on disc, dusted brownish around margins with a pair of divergent apical bristles and two pairs of weak outer hairs. Pleurae black, dusted brownish.

Abdomen shining black with short dark hairs above and longer pale hairs at sides. Hypopygium black.

Legs black with all metatarsi and second tarsal segments of front and middle legs yellow. Front and middle femora without distinct bristles. Hind femora with strong tuberculate spines ventrally, irregularly biserial on basal half, but uniserial distally. Front tibiae short haired anteriorly, long haired posteriorly; with the posteroventral the longest of the circlet of slender preapical bristles. Middle tibiae with distinct anterodorsal bristles and a long slender posteroventral preapical bristle. Hind tibiae with distinct anterodorsal bristles and a long slender posterodorsal preapical. Front and middle tarsi with circlets of long bristly hairs; hind tarsi with short bristly hairs above.

Wings somewhat brownish tinged, stigma short, squarish and dark. Halteres black.

♀. Similar to male, but hind femora more slender and abdomen terminating in two bristly papillae.

Length 3 mm.

Holotype ♂. NEPAL: Taplejung District, above Sangu, c. 6,500', evergreen scrub, 5-13.x. 1961 (*R. L. Coe*).

Paratype: ♀, Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, ix.x-1961 (*R. L. Coe*).

This species resembles *H. geniculatus* Wulp (1897 : 137) from Ceylon in having the legs partly yellow, but that species has whitish halteres.

The specific name is a Nepalese word meaning "buffalo".

### *STENOPROCTUS* Loew

*Stenoproctus* Loew, 1858, *Öfvers. VetenskAkad. Förh.*, Stockh. 15 : 340.

*Stenoproctus* Loew; Loew, 1860, *Abh. naturw. Ver. Sachsen* 2 : 261.

*Acanthopeza* Becker, 1914, *Annl. Soc. ent. Fr.* 83 : 122.

This genus has previously only been recorded from the Ethiopian region. The type

species, *S. unipunctatus* Loew, was described from the Cape of Good Hope. Becker (1914) described a second species, *S. sylvaticus* (under *Acanthopeza*) from East Africa and Jones (1940) described three species from the Ruwenzori region. I refer one species from Nepal to this genus, although the hind femora are simple and slender, in this feature resembling an undescribed species I have seen from Africa. When males are known, it may be advisable to erect a new genus for this and the African species.

*Stenoproctus nepalensis* sp. n.

(Text-fig. 19)

♀. Head black, heavily dusted greyish. Eyes contiguous above antennae, face about as broad as third antennal segment is deep. Slender ocellar bristles, curved forwards and slightly divergent. Occiput with sparse pale hairs. Antennae black, third segment a little more than twice length of first and second segments together, the apical arista slightly longer than antenna. Proboscis short, directed forward. Palpi black.

Thorax rather high and arched; black, heavily dusted greyish around broad margin, but disc somewhat lighter, brownish dusted. Thoracic pubescence short, sparse and pale, except for a notopleural bristle, a dorsocentral at anterior corner of prescutellar depression, and a weak postalar. Pleurae black, dusted greyish. Scutellum black, dusted yellowish with 4 equally strong marginal bristles and several pale hairs.

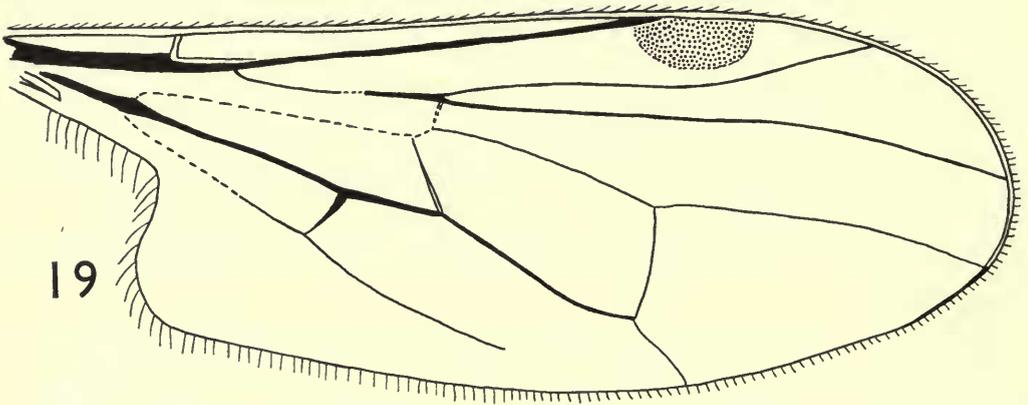


FIG. 19. *Stenoproctus nepalensis* sp. n. ♀ wing.

Abdomen brownish, dulled by yellowish dust and with short sparse pale hairs.

Legs slender, pale brown, but hind tibiae and all tarsi dark brown. Front and middle femora with short slender posteroventral bristles, short haired above; hind femora slender with additional longer posteroventral bristles on distal half, a weak series of anteroventral bristles with a few longer curved bristles at tip and with some upright bristly hairs above on basal half. Front tibiae with rather long bristly hairs and a long anterodorsal subapical bristle and a similar posteroventral bristle. Middle tibiae with a long brown anterodorsal bristle at basal quarter, a shorter pale anteroventral bristle at middle and a slender apical bristle in the antero- and posteroventral positions. Hind tibiae with a strong brown anterodorsal bristle at basal third, and some slender posterodorsal bristly hairs which become longer towards tip; two slender pale anteroventral bristles about middle and with rather short dense hairs below on distal third.

Wings clear, veins dark brown. Cell *Cu* square ended and much shorter than cell *M*. Vein *1A* continued to wing margin. *Rs* (the common stem of  $R_{2+3}$  and  $R_{4+5}$ ) long. A distinct brownish stigma below tip of vein  $R_1$ . Axillary angle well developed. Halteres yellow.

♂ unknown.

Length 2.5 mm.

Holotype ♀. NEPAL: Arun Valley, below Tumlingtar, River Sabhaya, west shore, c. 1,800', dead leaves lying in sun on sandy shore, 22.xii.1961 (*R. L. Coe*).

Paratype: ♀, same data as Holotype.

This species is distinguished at once from all described species by the slender simple hind femora.

## OCYDROMIINAE

### *BICELLARIA* Macquart

*Bicellaria* Macquart, 1823, *Mém. Soc. Sci. Lille*, 1819-22: 155.

*Cyrtoma* Meigen, 1824, *Syst. Besch.* 4: 1.

*Enicopteryx* Stephens, 1829, *Syst. Cat. Brit. Ins.* 2: 264.

This genus is known only from the Palaearctic and Nearctic regions. One species has been taken in Nepal which is very close to the Palaearctic *B. vana* Collin, but since this is represented by only a damaged male I am reluctant to comment further until more material is available.

#### *Bicellaria* sp.

NEPAL: Ghanpokhara, 5,500-7,000', 2.v.1954, 1 ♂ (*J. Quinlan*).

## EMPIDINAE

### *HILARA* Meigen

*Hilara* Meigen, 1882, *Syst. Besch.* 3: 1.

This genus is almost world-wide in distribution with a large number of described species. Unfortunately, many descriptions are inadequate, which has made taxonomic studies difficult. It is essential that the male genitalia be dissected and studied in detail and illustrated in descriptions.

Three species are now described from Nepal and are distinguished from other Himalayan species by the following key. At least another 4 species are represented by females only and are thus not described.

#### KEY TO KNOWN HIMALAYAN SPECIES OF *Hilara*

1	Wings brownish tinged . . . . .	2
-	Wings clear . . . . .	4
2 (1)	Thorax light yellowish brown with 3 black stripes . . . . .	<i>rufithorax</i> Brunetti
-	Thorax brownish or blackish . . . . .	3
3 (2)	Blackish species. Middle femora with a long slender ventral bristle near base	<i>bhiga</i> sp. n.
-	Brownish species. Middle femora without such a bristle . . . . .	<i>bares</i> Walker

4	(1)	Halteres brownish yellow . . . . .	<i>compacta</i> Brunetti
—		Halteres black . . . . .	5
5	(4)	Acrostichal bristles biserial . . . . .	<i>gila</i> sp. n.
—		Acrostichal bristles quadriserial . . . . .	6
6	(5)	Legs brown. Front basitarsus of ♂ greatly swollen . . . . .	<i>peshawarensis</i> Brunetti
—		Legs yellow, except for brownish tarsi. Front basitarsus of ♂ moderately swollen . . . . .	<i>khola</i> sp. n.

### *Hilara gila* sp. n.

(Text-figs. 20–23)

♂. Head black, heavily dusted brownish grey. A pair of frontal bristles and a strong pair of widely divergent ocellar bristles. Some long postocular bristly hairs curved forward over eye-margins on upper half of head. Antennae black, style about two-thirds length of third segment. Proboscis black. Palpi black, with a long black ventral bristle.

Thorax black, heavily dusted brownish grey. A small humeral, intrahumeral and post-humeral present. Acrostichals rather short, biserial; dorsocentrals a little longer, uniserial and ending in a longer prescutellar bristle. A notopleural with a short bristle in front and another behind, a supra-alar and a postalar present. Pleurae bare, brownish grey dusted. Scutellum greyish dusted with two pairs of marginal bristles, outer pair weaker.

Abdomen blackish, dusted brownish grey, rather short haired. Hypopygium dusted brownish grey.

Legs dark brown, first tarsal segment of front leg moderately swollen, otherwise legs slender. Mainly short haired, but middle and hind femora with slender anteroventral bristly hairs and hind tibiae with some longer posterodorsal bristly hairs. Front tibiae with weak antero- and posterodorsal preapical hairs.

Wings greyish with blackish veins. Stigma pale brownish. Vein 1A very faint. Halteres black.

♀. Similar to male, but front metatarsi simple and abdomen terminating in a pair of papillae. Length 2.25 mm.

Holotype ♂. NEPAL: Taplejung District, between Sangu and Tamrang, wet boulder permanently shaded in deep river gorge, c. 5,200', 14.ii.1962 (R. L. Coe).

Paratypes: 17 ♂, 5 ♀, same data as Holotype.

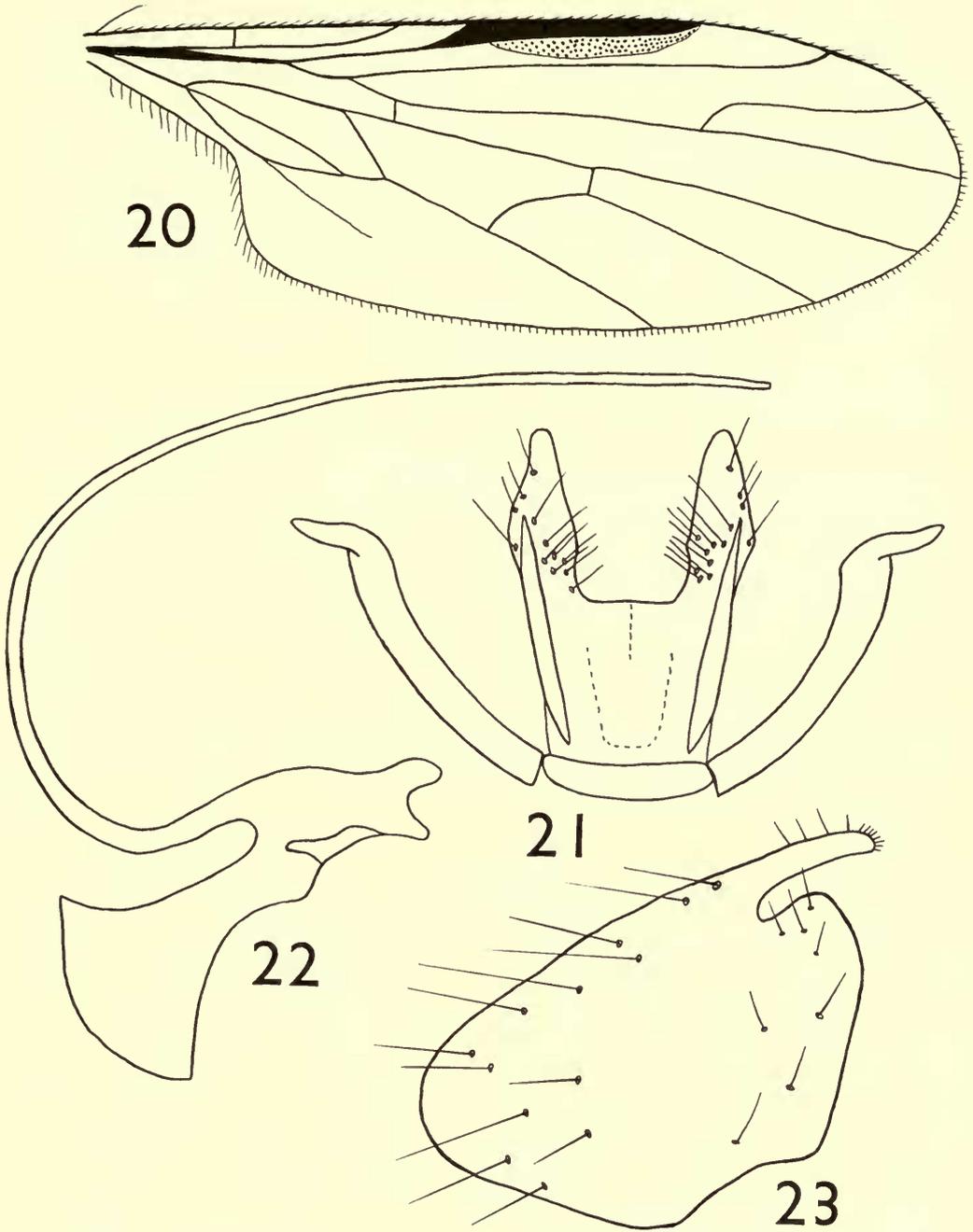
The specific name is a Nepalese word meaning "wet".

### *Hilara bhiga* sp. n.

(Text-figs. 24–27)

♂. Head black, heavily dusted brownish grey. A pair of frontal bristles and a pair of widely divergent ocellar bristles. The longer upper postocular bristles are not strongly curved forward over eye margins as in *H. gila*. Antennae black and resembling *H. gila* in proportions. Palpi yellow with a long ventral bristle.

Thorax black, brownish dusted, but viewed from in front with a narrow black stripe on each side between acrostichals and dorsocentrals, a fairly long bristle on each side of prothoracic collar, a humeral, a posthumeral, a long intrahumeral and a strong notopleural with a shorter bristle in front and another behind. Acrostichals quadriserial, but a little irregular; dorsocentrals uniserial ending in a longer prescutellar bristle. A supra-alar and a long postalar present. Pleurae heavily dusted brownish grey. Scutellum dusted brownish grey with 4 marginal bristles, outer pair weaker.



FIGS. 20-23. *Hilara gila* sp. n. 20, wing; 21, epandrium and cerci (anterior view); 22, aedeagus; 23, basistylus.

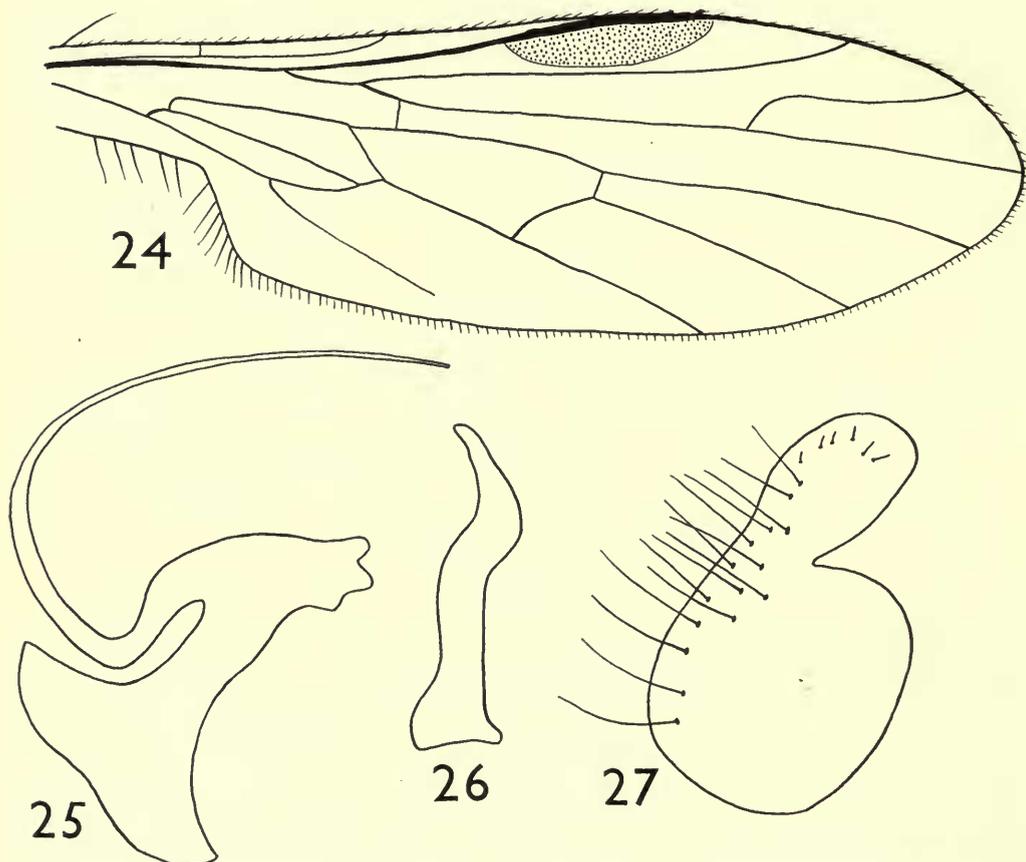
Abdomen black, dusted brownish grey, rather short haired, but with longer bristly hairs on hind margins of segments. Hypopygium blackish, dusted brownish.

Legs slender, except for moderately swollen front metatarsus in male; front coxae yellowish brown, middle and hind coxae brownish grey. Front and middle femora yellowish brown to brown, hind femora yellowish brown on basal third, blackish distally. Tibiae brownish, darker towards tip, rest of legs blackish. Front femora short haired with some longer bristly hairs posterodorsally; middle femora with long slender anterodorsal bristles, a long slender ventral bristle near base and slender posteroventral bristles on distal half; hind femora short haired with some longer anteroventral bristly hairs. Front tibiae with anterodorsal bristles and a circlet of preapical bristles; middle tibiae with one or two anteroventral bristles and a posteroventral bristle just beyond middle; hind tibiae with some spaced anterodorsal, anteroventral and posterodorsal bristles. Tarsi with one or two bristly hairs above towards tip on first and second segments.

Wings distinctly brownish tinged with an elongate dark brown stigma and dark veins. Vein rA distinct almost to wing margin. Halteres black.

♀ ? unknown (see below).

Length 2.75–3 mm.



FIGS. 24–27. *Hilara bhiga* sp. n. 24, wing; 25, aedeagus; 26, left cercus (anterior view); 27, basistylus.

Holotype ♂. NEPAL: Taplejung District, between Sangu and Tamrang, wet boulder permanently shaded in deep river gorge, *c.* 5,200', 14.ii.1962 (*R. L. Coe*).

Paratypes: 2 ♂, same data as Holotype.

A female (same data) may belong to this species, but is not included in the type series; it has yellow legs and the hind tibiae are somewhat swollen distally.

In Frey's (1952) key to East Asian Empididae this and the following species run to *H. fistulipes* Frey, but that species has black palpi.

The specific name is another Nepalese word meaning "wet".

### *Hilara khola* sp. n.

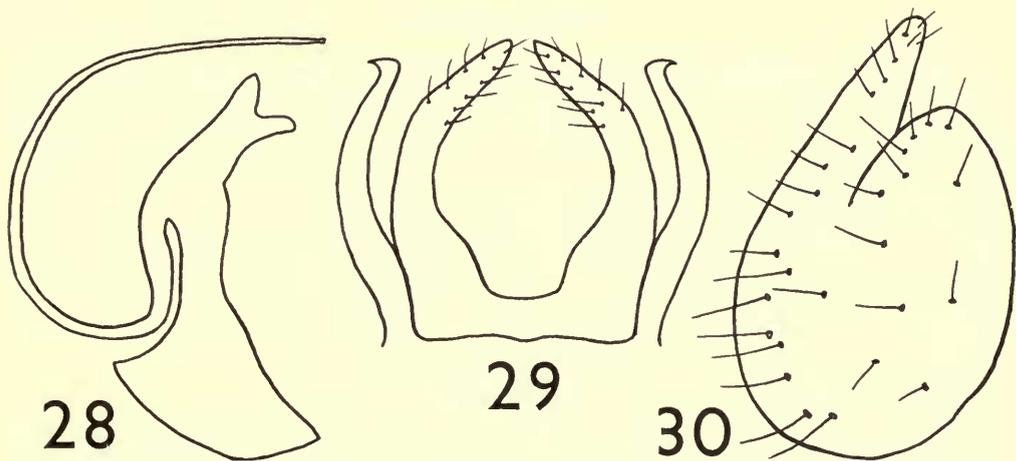
(Text-figs. 28-30)

♂. Head blackish, dusted greyish. Chaetotaxy as in the previous two species, but as in *H. bhiga* the postocular occipital bristly hairs do not curve forward over eye margins. Antennae black. Palpi yellow with a long ventral bristle.

Thorax black, but heavily dusted brownish to greyish and, viewed from in front, with a narrow stripe on each side between the acrostichal and dorsocentral rows of bristles. Prothoracic collar with a distinct bristle on each side. A humeral, intrahumeral and posthumeral bristles present. Acrostichals quadriserial, dorsocentrals uniserial, about the same length as acrostichals but ending in a longer prescutellar bristle. A notopleural bristle with a shorter bristle in front but a bristle of almost equal length behind, a supra-alar and a postalar. Pleurae black but heavily dusted brownish. Scutellum completely brownish dusted and with 4 marginal bristles, outer pair weaker.

Abdomen blackish, heavily dusted dark grey with short black hairs and some longer lateral bristly hairs. Hypopygium dusted greyish.

Legs yellow with last 4 tarsal segments of all legs dark brown. Front metatarsus moderately swollen. Middle femora with distinct anterodorsal bristles; hind femora with weak anterodorsal and anteroventral bristles. Middle tibiae with a short anteroventral bristle at distal



FIGS. 28-30. *Hilara khola* sp. n. 28, aedeagus; 29, epandrium and cerci (anterior view); 30, basistylus.

three-quarters. Hind tibiae with some short anteroventral bristles and a weak posterodorsal at middle. Legs otherwise moderately short haired.

Wings clear with brown veins. Stigma faint, vein 1A faint. Halteres black.

♀ unknown.

Length 2 mm.

Holotype ♂. NEPAL: Taplejung District, Dobhan, c. 3,500', shady places on shrubby slope above River Tamur, 21-27.i.1962 (R. L. Coe).

The specific name is a Nepalese word meaning "river".

## HEMERODROMIINAE

### *Hemerodromia* Meigen

*Hemerodromia* Meigen, 1822, *Syst. Besch.* 3: 61.

*Microdromia* Bigot, 1857, *Annls Soc. ent. Fr.* 3: 557, 563.

A genus of world-wide distribution. Brunetti (1913: 33) described *H. dorsalis* from India (as *Chelipoda*) and four species are now described from Nepal.

#### KEY TO NEPALESE SPECIES OF *Hemerodromia*

- |       |   |                     |
|-------|---|---------------------|
| 1     | Thorax completely reddish yellow. Scutellum yellow . . . . .                  | <i>pila</i> sp. n.  |
| -     | Thorax mostly black. Scutellum entirely black . . . . .                       | 2                   |
| 2 (1) | Halteres with knobs black. Thorax completely black. Antennae yellow           | <i>serpa</i> sp. n. |
| -     | Halteres yellow Thorax partly reddish yellow. Antennae whitish. . . . .       | 3                   |
| 3 (2) | Pleurae and sides of metanotum reddish yellow . . . . .                       | <i>chita</i> sp. n. |
| -     | Thorax, including pleurae, black, except for reddish yellow patch over humeri | <i>lomri</i> sp. n. |

### *Hemerodromia chita* sp. n.

(Text-figs. 31, 32)

♂. Head black, dusted greyish, but silvery behind eyes on lower half. Frons slightly wider than third antennal segment is deep. Face linear about middle, widening beneath antennae and above mouth and with some white hairs. Occiput with pale bristly hairs, cheeks with close set silvery hairs. A weak pair of yellow ocellar bristles. Antennae whitish; third segment pointed, a little longer than first and second segments together and with distinct hairs above and below on distal half. Proboscis yellow. Palpi yellowish with pale hairs.

Thorax broadly black, lightly dusted on a median stripe which widens to width of scutellum posteriorly; reddish yellow laterally on prothoracic collar, over humeri and laterally to wing base, bristles pale. Acrostichal bristles very short, biserial; dorsocentrals minute, uniserial. A single distinct notopleural bristle with a row of about 6 bristly hairs below. Pleurae yellow and yellowish dusted. Scutellum black, yellowish dusted, with a pair of weak apical bristles.

Abdomen black distally, yellow ventrally with pregenital segment completely yellow. Hypopygium black, basistylus with some broad flattened bristles at tip.

Legs completely yellow. Front legs of usual Hemerodromiini type with elongate coxae and swollen femora. Front femora with a double row of black points below and a row each of brownish antero- and posteroventral bristles. Middle and hind femora slender and without outstanding bristles. Front tibiae with a row of ventral bristles and a strong ventral apical bristle. Legs otherwise simple, without outstanding bristles.

Wings clear, veins brownish. Section of costa between end of  $R_{2+3}$  and end of upper branch of  $R_{4+5}$  obviously longer than upper branch of  $R_{4+5}$ . A distinct stump of the lower section of  $Cu$  present (vein that would close cell  $Cu$  if present). Halteres yellow.

♀. Similar to male, but bristles on front femora a little longer and stronger.  
Length 2.75 mm.

Holotype ♂. NEPAL: Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962 (*R. L. Coe*).

Paratypes: 3 ♂, 2 ♀, same data as Holotype.

This species resembles Brunetti's (1913: 33) description of *H. dorsalis* from the Western Himalayas, but the hypopygium is not large as in that species. *H. orientalis* Meijere has the thorax more extensively darkened.

The specific name means "leopard".

### *Hemerodromia pila* sp. n.

(Text-figs. 33, 34)

♂. Head similar to *H. chita*, but only very lightly dusted and proboscis a little smaller and more slender.

Thorax reddish yellow. Acrostichals very short and biserial; dorsocentrals only a little longer and uniserial. The only other distinct bristle is a weak notopleural. Scutellum yellow with 4 pairs of weak marginal hairs. Pleurae yellow.

Abdomen black dorsally, except for yellow pregenital sternites, yellow ventrally. Hypopygium black.

Legs completely yellow. The swollen front femora with antero- and posteroventral bristles and a double row of black points beneath. Front tibiae with a row of ventral bristles and a strong ventral apical bristle. Legs otherwise slender and short haired without outstanding bristles.

Wings clear, with yellow veins. Section of costa between end of  $R_{2+3}$  and upper branch of  $R_{4+5}$  only slightly longer than upper branch of  $R_{4+5}$ . No trace of lower section of  $Cu$ . Halteres yellow.

♀. Resembling male except for abdominal terminalia.  
Length 2.75 mm.

Holotype ♂. NEPAL: Taplejung District, Dobhan, evergreen trees overhanging stream in deep gully, c. 3,500', 30.i. 1962 (*R. L. Coe*).

Paratype ♀, same data as Holotype.

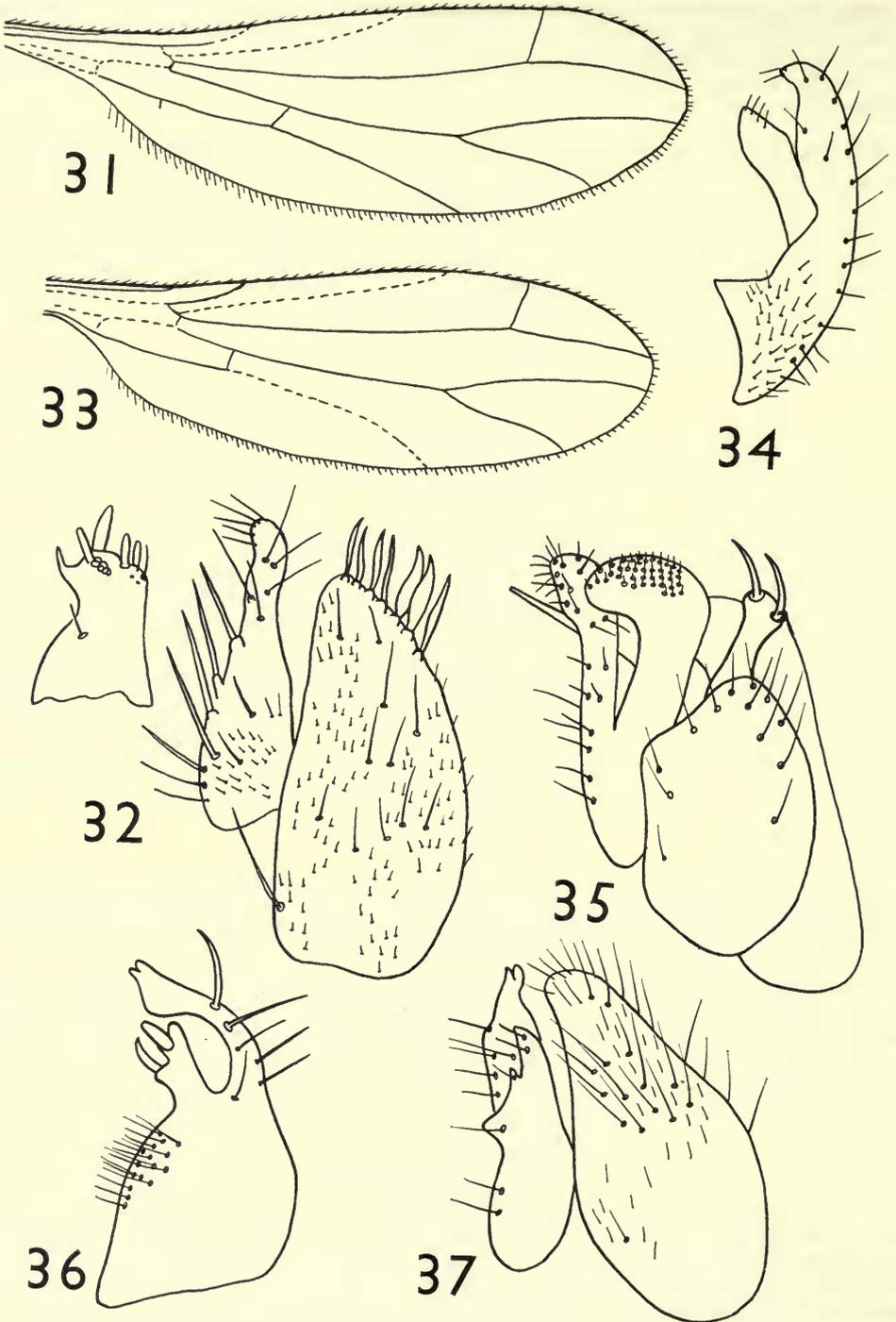
Very similar to the Palearctic *H. oratoria* Fln. but thorax less heavily whitish dusted and thus more shining and differing from that species and Collin's (1941) allied species *H. bifurcata* and *H. acuminata* in structure of genitalia.

The specific name means "yellow".

### *Hemerodromia serpa* sp. n.

(Text-fig. 35)

♂. Head black, brownish dusted, with face and lower half of head broadly silvery behind eyes. Frons twice ocellar width. Face linear at middle, the eyes very nearly touching for a short distance, with a row of hairs. A pair of weak ocellar bristles. Occiput short haired. Antennae yellow, third segment pointed. Proboscis yellow. Palpi short, pale yellow.



FIGS. 31-37. *Hemerodromia* spp. *H. chita* sp. n. 31, wing; 32, ♂ basistylus and epandrium; *H. pila* sp. n. 33, wing; 34 ♂ epandrium; *H. serpa* sp. n. 35, ♂ basistylus and epandrium; *H. lomri* sp. n. 36, ♂ epandrium; 37, ♂ basistylus and epandrium.

Thorax completely black, brownish dusted but subshining. Acrostichal bristles very short, biserial, dorsocentrals also very short, but uniserial. A weak notopleural bristle. Pleurae black, dusted brownish. Scutellum black, dulled by brownish dust and with 4 weak marginal hairs of which the apical pair are slightly longer.

Abdomen black, dulled by brownish dust. Hypopygium black, part of epandrium resembling a snake's head in shape.

Legs with front femora brownish, otherwise completely yellow. Chaetotaxy resembling *H. pila*, but bristles weaker.

Wings greyish, veins brown. Section of costa between end of  $R_{2+3}$  and upper branch of  $R_{4+5}$  only slightly longer than upper branch of  $R_{4+5}$ . No trace of the lower section of *Cu*. Halteres black, with extreme base of stem yellowish.

♀. Similar to male except for the abdomen, which is very slender apically, the last two segments being black and shining with the preceding segment whitish above and below, but shining black on a lateral stripe.

Length 2.25 mm.

Holotype ♂. NEPAL: Taplejung District, Dobhan, east bank of River Tamur, c. 3,500', mixed vegetation by stream in deep gully, i-ii. 1962 (*R. L. Coe*).

Paratypes: 3 ♂, 2 ♀, same data as Holotype; Taplejung District, Dobhan, c. 3,500', shady places on shrubby slope above R. Tamur, 21-27.i. 1962, 2 ♂, 1 ♀ (*R. L. Coe*); Taplejung District, Dobhan, evergreen trees overhanging stream in deep gully, c. 3,500', 30.i. 1962, 2 ♂, 1 ♀ (*R. L. Coe*); Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962, 1 ♀ (*R. L. Coe*); Taplejung District, north of Sangu, dry grass above river bank, c. 5,200', 5.i. 1962, 1 ♂ (*R. L. Coe*); Taplejung District, between Sangu and Tamrang, mixed shrubs in deep gorge, c. 5,200', x-xi. 1961 2 ♀, (*R. L. Coe*); Arun Valley below Tumlingtar, River Sabhaya, west shore, c. 1,800', evergreen shrubs on sandy shore, 9-17.xii. 1961, 1 ♂ (*R. L. Coe*).

This species is very similar to *H. orientalis* Meijere (1911: 330) from Java, but in that species the pleurae and venter are yellow, and the upper branch of  $R_{4+5}$  is steeper. *H. xiphias* Bezzi (1914: 74) from Formosa has the thorax, pleurae, venter and halteres black as in *H. serpa*, but differs from the male type in genital characters. Dr. Morge sent a male and two female syntypes and I have designated the male as lectotype.

The specific name means "snake".

### *Hemerodromia lomri* sp. n.

(Text-figs. 36, 37)

♂. Head black, lightly brownish dusted and silvery behind eyes below. Frons twice ocellar width, but eyes touching for a short distance below antennae, so that the silvery face is divided into two small triangles. Ocellar bristles and occipital hairs longer than in the three preceding species. Antennae whitish, third segment pointed. Proboscis and palpi pale yellow.

Thorax, humeri and posterior calli yellowish, rest of thorax black, rather dulled by greyish dust. Acrostichals short and biserial, dorsocentrals short and uniserial. A distinct notopleural bristle with a few short bristly hairs in front. Pleurae black, but vaguely reddish around front and hind coxae. Scutellum black, completely dulled by greyish dust and with a pair of apical bristles.

Abdomen black, but pale yellowish at sides of first segment and first segment whitish below ; short haired at sides, longer haired below especially on pregenital sternites. Hypopygium black.

Legs pale yellow, chaetotaxy similar to *H. serpa*.

Wings clear, veins brownish. Section of costa between end of  $R_{2+3}$  and upper branch of  $R_{4+5}$  obviously longer than the upper branch of  $R_{4+5}$ , which is slightly sinuous. No trace of the lower section of *Cu*. Halteres yellow.

♀. Similar to male, but abdomen whitish below on first three sternites. Anal papillae brownish.

Length 2.25 mm.

Holotype ♂. NEPAL: Taplejung District, Sangu, c. 6,200', mixed vegetation below stream in gully, xi. 1961-i. 1962 (*R. L. Coe*).

Paratype ♀, Taplejung District, river banks below Tamrang Bridge, c. 5,500', x-xi. 1961 (*R. L. Coe*).

Similar to *H. orientalis* Meijere and *H. xiphias* Bezzi, but in both these species the halteres are black.

The specific name means "fox".

### **CHELIPODA** Macquart

*Chelipoda* Macquart, 1823, *Mém. Soc. Sci. Lille*, 1819-22: 148.

This genus is distinguished from *Phyllostromia* Zetterstedt only by the presence of the first  $M_2$  cell. Melander (1927: 263) regarded both as subgenera and, as Collin (1962: 691) has pointed out, the presence or absence of one veinlet is of doubtful value at generic level (although similar cases occur elsewhere, e.g. *Empis* and *Rhamphomyia*). One female of *Chelipoda bakra* (described below) has this veinlet missing in both wings (Text-fig. 39), though the longitudinal veins are bowed in where the veinlet should be ; in another female the veinlet is duplicated (Text-fig. 40). However I am for the present retaining both names at generic level since there appears to be some difference in the distribution of the two genera, *Chelipoda* occurring in Europe, N. and S. America, Formosa, Java, Australia and New Zealand, while *Phyllostromia* has only been correctly recorded from Europe and Formosa.

Brunetti (1920: 368-9) described *Phyllostromia flavida* from India, but this has a 1st  $M_2$  cell and should be referred to *Chelipoda*. Bezzi's (1912, 1914) species should be reversed in their generic positions.

Two species are now described from Nepal.

### *Chelipoda bakra* sp. n.

(Text-figs. 38-41)

♂. Head black, rather heavily brownish dusted. Frons rather broad, but face linear. Ocellar bristles divergent, two pairs of vertical bristles and short hairs behind on lower half of head. Antennae blackish with long white terminal arista. Proboscis short, brownish ; palpi very small, yellow.

Thorax black, dulled by brownish dust. A pair of microscopic acrostichal hairs at front of thorax. A strong pair of anterior dorsocentrals (almost intrahumeral in position), a pair of tiny

median dorsocentral hairs and a weak pair of prescutellar dorsocentrals. A strong notopleural bristle with a very weak bristle in front and a strong supra-alar. Pleurae black, dusted brownish, metapleurae with a few bristles. Scutellum black, dusted brownish with a pair of weak apical bristles.

Abdomen black, dulled by brownish dust and short haired. Hypopygium large, black.

Legs yellowish with middle and hind femora and last tarsal segment of all legs brownish. Front coxae greatly elongated as is usual in this genus. Front femora swollen, with two rows of black points beneath and antero- and posteroventral bristles. Front tibiae "keeled" beneath. Legs otherwise slender and short-haired.

Wings clear with brown veins. Venation typical of the genus with 1st  $M_2$  cell complete. Halteres dusky.

♀. Similar to male, but more robust, a little longer and abdomen terminating in a pair of yellow papillae.

Length 2.25 mm.

Holotype ♂. NEPAL: Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962 (R. L. Coe).

Paratypes: 3 ♂ 4 ♀, same data as Holotype.

The specific name means "goat".

### *Chelipoda keta* sp. n.

(Text-fig. 42)

♂. Head black, rather heavily dusted greyish. Ocellar bristles short, divergent. A pair of outer vertical bristles. Occiput with short pale hairs which become longer below. Antennae with first and third segments blackish, second segment yellow and arista whitish with extreme base darkened. Proboscis short, brownish, palpi small, yellowish.

Thorax black, dusted greyish on disc, but reddish brown laterally about humeri and wing bases. Chaetotaxy as in *C. bakra*. Scutellum dark brown with a pair of apical bristles. Pleurae reddish brown, metapleurae with two or three bristles.

Abdomen black, dusted brownish. Hypopygium pale.

Legs yellow except for blackish last two tarsal segments on all legs. Chaetotaxy as in *C. bakra*, but bristles on front femora a little stronger.

Wings clear with brown veins. Venation as in *C. bakra*. Halteres yellow.

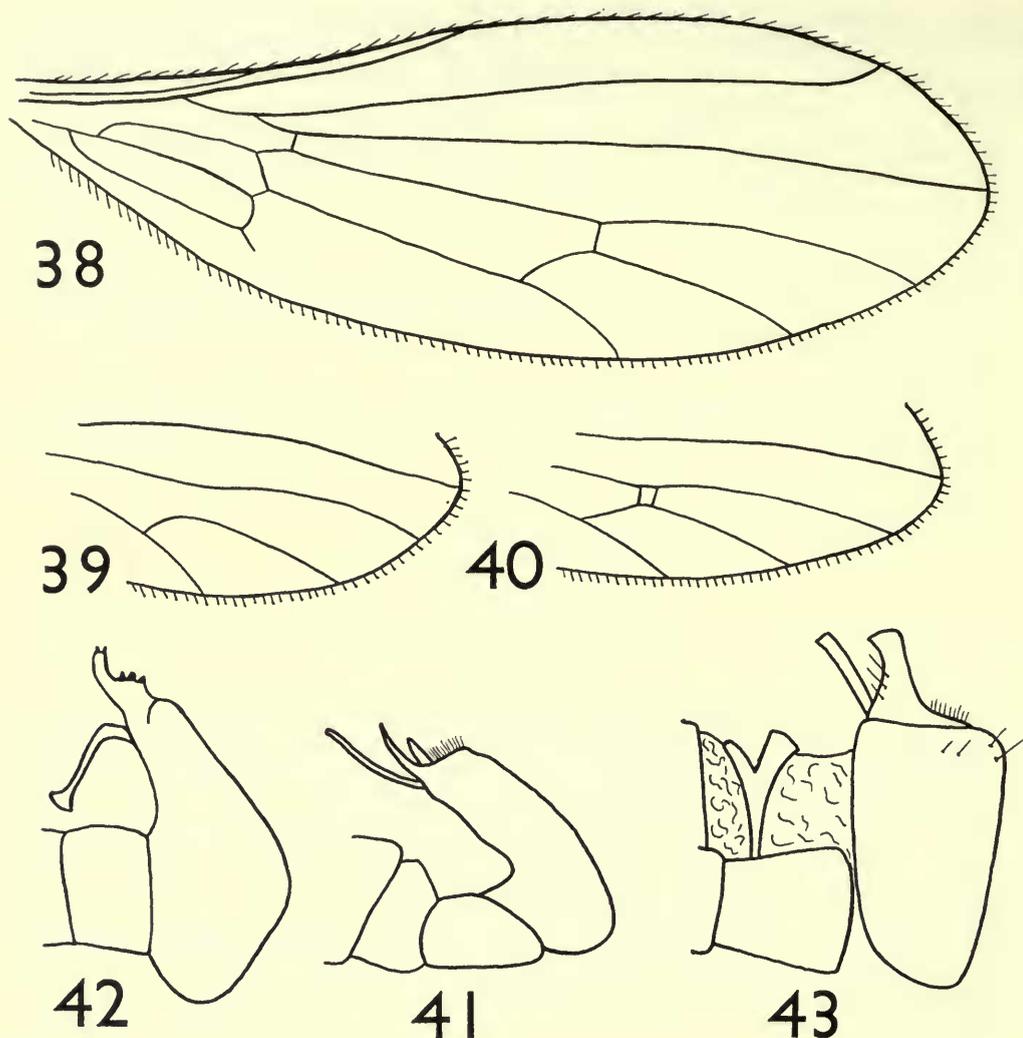
♀ unknown.

Length 2.25 mm.

Holotype ♂. NEPAL: Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962 (R. L. Coe).

This and *C. bakra* resemble *C. fuscicornis* Bezzi (1912: 478) from Formosa in having a white arista. The types of *C. fuscicornis* are not present in Sauter's collection at the Deutsches Entomologisches Institut, Berlin, but Dr. G. Petersen has kindly sent two males later recorded by Bezzi (1914: 74). These specimens differ from the Nepalese species in having veins  $R_{2+3}$  and  $R_{4+5}$  distinctly bowed forward about the middle and in genital characters and the formation of the pregenital tergite (Text-fig. 43).

The specific name means "boy".



FIGS. 38-43. *Chelipoda* spp. *C. bakra* sp. n. 38, wing; 39, 40, part of wing showing abnormal venation; 41, ♂ hypopygium: *C. keta* sp. n. 42, ♂ hypopygium: *C. fuscicornis* Bezzi. 43, ♂ hypopygium.

### *Chelipoda* sp.

A third new species resembling *C. keta* is represented by a headless male. I am reluctant to describe a species in this condition, but I have dissected the genitalia and these, with the specimen, are available for study by future workers.

NEPAL: Taplejung District, Sangu, c. 6,200', mixed vegetation by stream in gully, xi. 1961-i. 1962, 1 ♂ (*R. L. Coe*).

*HELEODROMIA* Haliday

*Heleodromia* Haliday, 1833, *Ent. Mag.* 1 : 159.

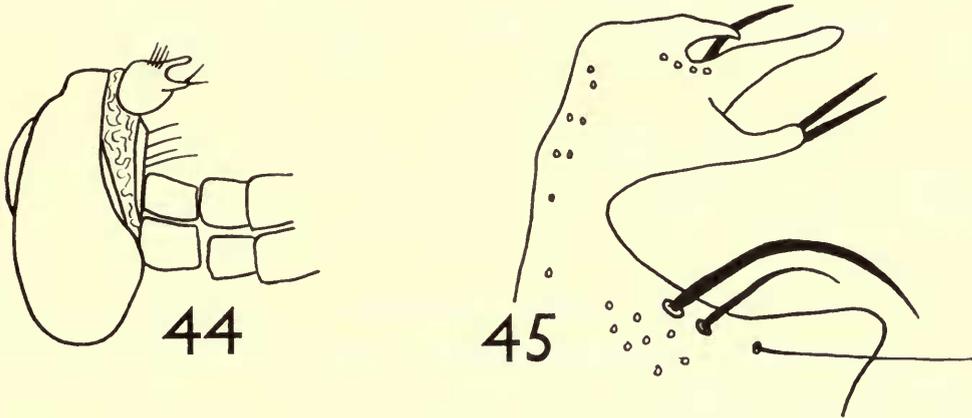
*Sciodromia* Haliday in Westwood 1840, *Introd. Mod. Class. Ins.* 2 : 132.

This genus is represented by two species in Europe, one from North America and recently Saigusa (1963) has described four species from Japan. One species is now described from Nepal.

*Heleodromia hilo* sp. n.

(Text-figs. 44, 45)

♂. Head olivaceous brown with the narrow face greyish. As usual with this genus, the "vertex" appears very large due to a flattening of the upper part of the occiput. Two pairs of bristles on each side of the flattened "vertex" with shorter postocular occipital bristles and some short fine hairs below. A pair of short but strong ocellar bristles present. Antennae short and black; third segment short, ovate with a slender apical projection from which the long arista arises. Proboscis about as long as head is deep. Palpi black, short with a strong dorsal bristle towards tip.



FIGS. 44-45. *Heleodromia hilo* sp. n. 44, ♂ hypopygium; 45, ♂, enlarged view of epanthrium (some bristles missing but sockets shown).

Thorax (including pleurae and scutellum) dull olivaceous brown. No acrostichals, 4 pairs of dorsocentrals, the third pair weak. A weak humeral, a tiny posthumeral and a postalar present. Scutellum with a pair of crossing apical bristles.

Abdomen blackish with sparse pale hairs. Hypopygium black with longer pale hairs and some bristles distally.

Legs slender, brown, with last two tarsal segments of all legs blackish. Without strong bristles and short haired except for some long bristly hairs on basal half of front femora and similar shorter hairs on basal half of middle femora. The first tarsal segment is elongate on all legs and on the middle and hind legs is longer than the remaining tarsal segments.

Wings brownish tinged with venation typical of the genus. Halteres brownish.

♀ unknown.

Length 2 mm.

Holotype ♂. NEPAL: Taplejung District, between Sangu and Tamrang, c. 5,500', mossy ground under bushes by hill stream, 20.x.1961 (*R. L. Coe*).

This species is browner than the European *H. immaculata* Haliday and the hypopygium is smaller. In Saigusa's key it runs to *H. boreoalpina* Saigusa, but that species has black legs and differs in genital characters. The North American species *H. pullata* (Melander, 1902: 345) is a black insect with only the hypopygium olivaceous brown.

The specific name means "mud".

### **CHELIFERA** Macquart

*Chelifera* Macquart, 1823, *Mém. Soc. Sci. Lille*, 1822: 150.

*Mantipeza* Rondani, 1856, *Dipt. Ital. Prodr.* 1: 148.

*Polydromia* Bigot, 1857, *Annls. Soc. ent. Fr.* (3) 5: 562.

This genus is best known from the Palaearctic Region at present, but is recorded from North America and New Zealand; Collin (1933: 284) has described a somewhat atypical species from Chile.

One female was brought back from Nepal, but since species of *Chelifera* are not easily distinguishable in this sex I am reluctant to describe the species under a new name.

### *Chelifera* sp.

A black, greyish dusted species with antennae, palpi, venter, halteres and legs lemon-yellow. Wing stigma distinct. Halteres yellow. Length 3 mm.

NEPAL: Taplejung District, river banks below Tamrang bridge, c. 5,500', x-xi. 1961, 1 ♀ (*R. L. Coe*).

## **CLINOCERINAE**

### **DOLICHOCEPHALA** Macquart

*Dolichocephala* Macquart, 1823, *Mém. Soc. Sci. Lille*, 1822: 147.

*Ardoptera* Macquart, 1827, *Mém. Soc. Sci. Lille*, 1827: 105.

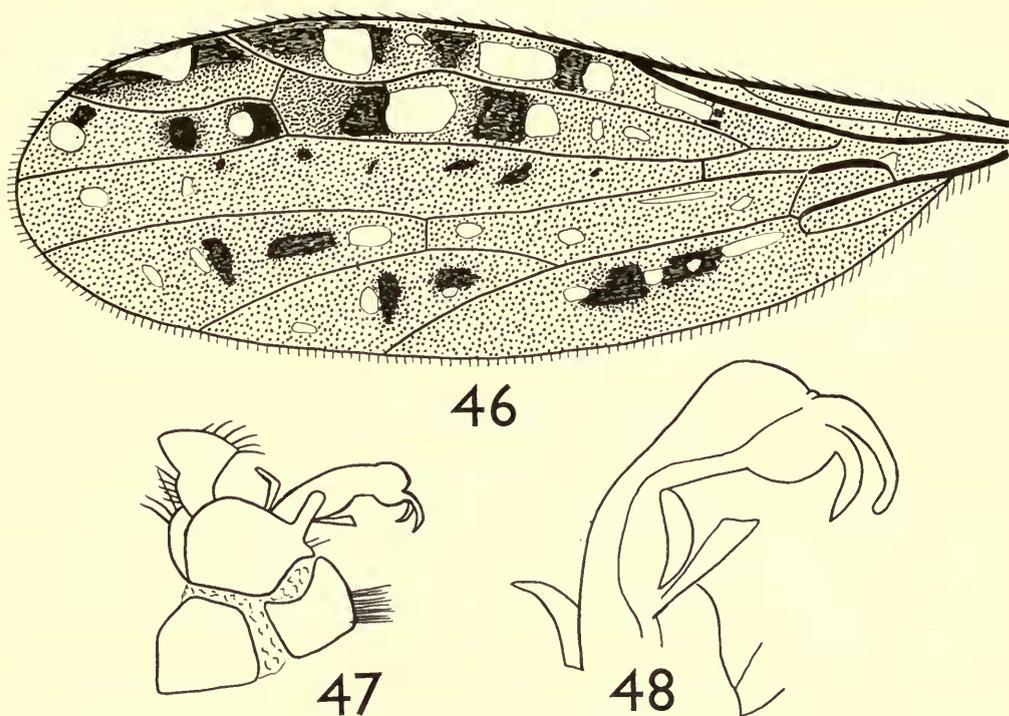
*Leptosceles* Haliday, 1833, *Ent. Mag.* 1: 160.

Three Palaearctic species of *Dolichocephala* are known and several species occur in Africa. Brunetti (1913: 35; 1920: 371) described *D. septemnotata* from Simla. Although the immature stages are unknown, they are probably aquatic since the adults are never found far from streams or lakes. One species is now described from Nepal.

### *Dolichocephala flamingo* sp. n.

(Text-figs. 46-48)

♂. Head brown, dusted greyish around neck and on face; a pair of strong ocellar bristles and a weaker pair of vertical bristles. Postocular bristles strong above, becoming finer below. Antennae short, dull black, third segment rounded, shorter than first and second segments



FIGS. 46-48. *Dolichocephala flamingo* sp. n. 46, wing; 47, ♂ hypopygium; 48, ♂ enlarged view of aedeagus.

together; arista black, a little more than twice antennal length and downcurved in the manner characteristic of the genus.

Thorax brownish, dusted greyish on a median line. Acrostichal bristles absent, 5 pairs of dorsocentrals, a humeral, a posthumeral, a notopleural and a postalar present. Pleurae greyish dusted, metapleurae with a few hairs. Scutellum brown with a pair of upright parallel apical bristles.

Abdomen dark brownish, hypopygium with a tuft of bristly hairs on the sternal keel and the tip of the aedeagus rather suggestive of a flamingo's head in profile.

Legs yellowish brown, except for middle and hind coxae, which are greyish and all tibiae are darkened at tip. Legs extremely short haired and devoid of bristles.

Wings brownish with some darker patches especially on anterior half of wing and numerous hyaline spots; vein  $R_{2+3}$  undulating. Halteres yellow.

♀ unknown.

Length 2 mm.

Holotype ♂. NEPAL: Arun Valley, east shore of River Arun below Tumlingtar, c. 1,800', 14-23. xii. 1961, evergreen shrubs bordering dry stream-beds (*R. L. Coe*).

This species resembles the Palaearctic *D. irrorata* Fallén in having hyaline spots along the costal vein. However the patterning of the wing is otherwise rather different and the genitalia are quite distinct.

**HYPENELLA** Collin

*Hypenella* Collin, 1941, *Proc. R. ent. Soc. Lond.* (B) 10 : 239.

Collin (1941 : 239) erected the genus *Hypenella* to receive *H. empodiata* Collin from the Far Eastern border of the U.S.S.R. He distinguished the genus from *Clinocerella* Engel, which it most resembles, by the presence of fine vibrissae, hairy jowls, long triangular clypeus and the small palpi. Dr. T. Saigusa informs me (*in litt.*) that several species occur in Japan, but I have studied his manuscript figures and all are distinct from the Nepalese material. Two species are now described from Nepal which may be separated as follows :

1	Wings clear ; legs blackish . . . . .	<i>spumarius</i> sp. n.
-	Wings brownish tinged ; femora yellow . . . . .	<i>bhura</i> sp. n.

***Hypenella spumarius* sp. n.**

(Text-figs. 49-51)

♂, ♀. Similar to *H. empodiata* Collin, but differing from Collin's description as follows :

The facial hairs are weaker. The humerus and upper third to half of the mesopleuron is brownish. Prescutellar depression darker than thoracic disc but flanked by a greyish patch under the two posterior dorsocentrals. Hypopygium with the terminal process broadened towards tip. Hind tibiae with two or three short dorsal bristles just before tip. Wing stigma narrow and indistinct.

Length 2.5 mm.

Holotype ♂. NEPAL : Taplejung District, Dobhan, spray-splashed rocks in River Tamur, c. 3,300', 3.ii.1962 (*R. L. Coe*).

Paratypes : 2 ♂, 5 ♀, same data as Holotype.

I have been unable to examine, or obtain information on, the type of *H. empodiata* Collin (in the Leningrad Museum) which is obviously very similar, but I prefer to regard this species as new rather than risk starting a chain of misidentifications by referring it erroneously to Collin's species.

***Hypenella bhura* sp. n.**

(Text-fig. 52)

♂, ♀. Head similar to preceding species, but occiput black. Facial hairs much stronger more resembling *H. empodiata* Collin.

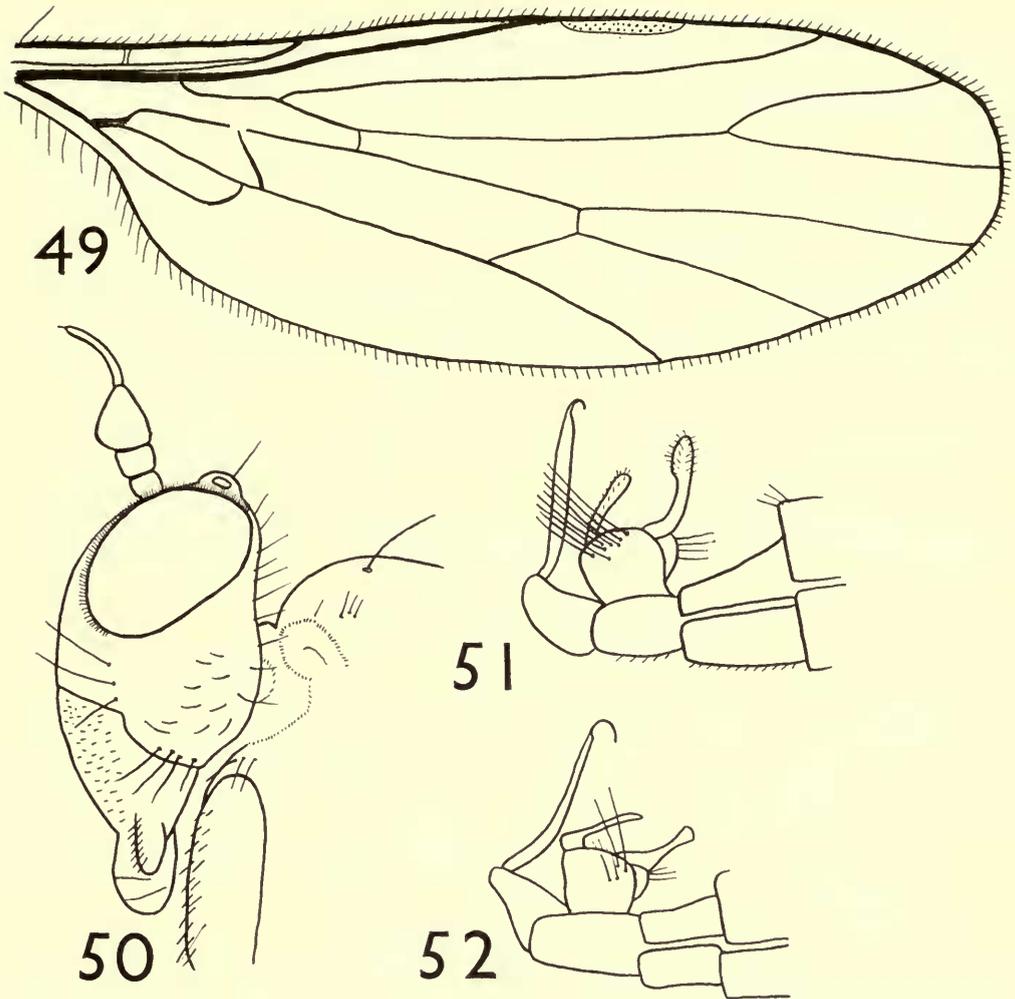
Thorax dark brown with paler mid-stripe ; darker on the prescutellar depression and without any pale areas under two posterior dorsocentrals, though paler on humeri and notopleurae. Under the high power of the binocular microscope, the thorax is clothed with dense microscopic pile. Chaetotaxy as in *H. spumarius*. Pleurae greyish. Scutellum dark brown and with two long apical bristles.

Abdomen olivaceous brown, greyish on disc. Venter more greyish. Hypopygium brownish.

Legs coxae and femora yellow, remainder blackish. Without outstanding bristles except for a "comb" of 5 short dorsal bristles on distal quarter of hind tibiae.

Wings distinctly brownish tinged, without stigma. Venation similar to *H. spumarius*. Halteres yellowish.

Length 2.25 mm.



FIGS. 49-52. *Hyphenella* spp. *H. spumarius* sp. n. 49, wing; 50, head; 51, ♂ hypopygium: *H. bhura* sp. n. 52, ♂ hypopygium.

Holotype ♂. NEPAL: Taplejung District, Dobhan, c. 3,500', spray-splashed rocks in River Maewa, 25.i.1962 (R. L. Coe).

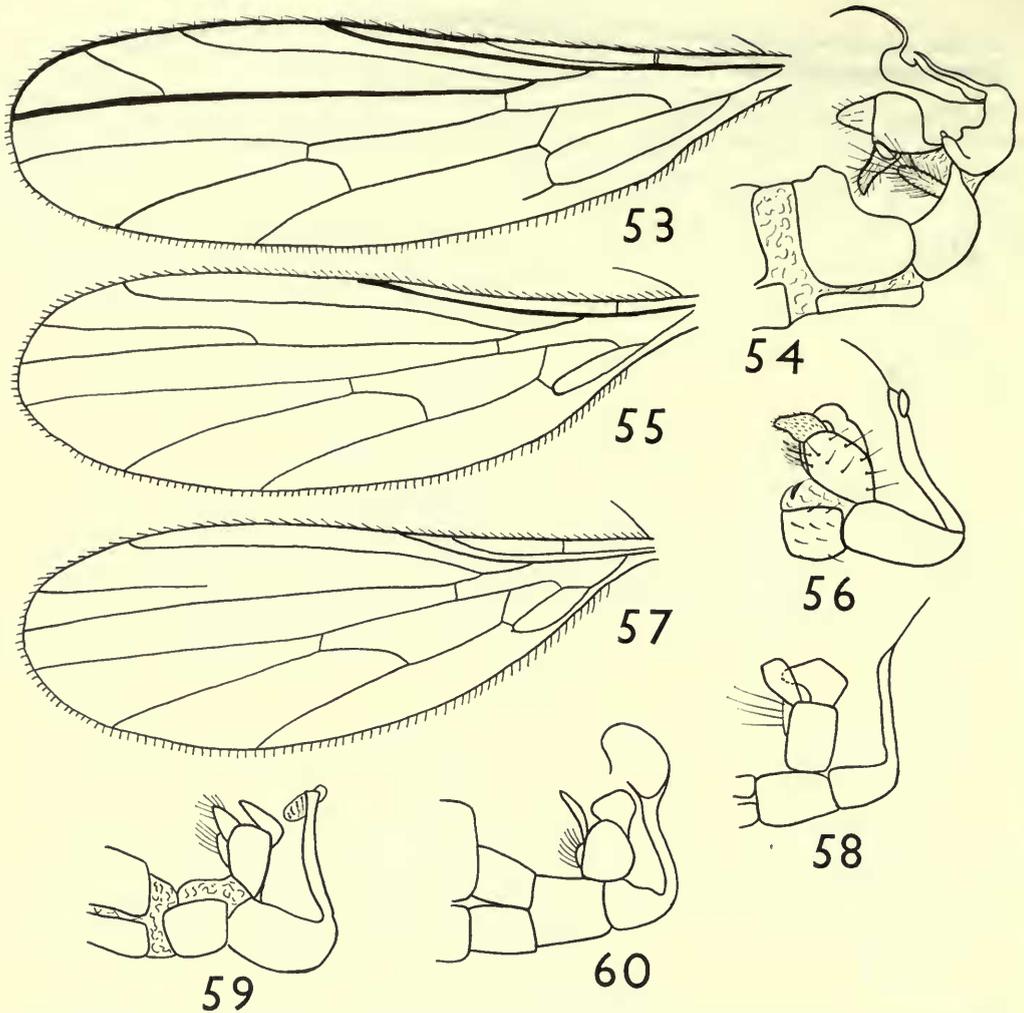
Paratype ♀, same data as Holotype.

The specific name is a Nepalese word meaning "brown".

#### ACANTHOCLINOCERA Saigusa

*Acanthoclinocera* Saigusa, 1965. *Kontyû*, 33: 53.

Saigusa erected this genus for one species, *A. dasyscutellum* from Japan. A further species is now described from Nepal.



FIGS. 53-60. *Clinocera* spp. *C. evae* sp. n. 53, wing; 54, ♂ hypopygium: *C. pani* sp. n. 55, wing; 56, ♂ hypopygium: *C. sp.* 57, wing; 58, ♂ hypopygium: *C. nadi* sp. n. 59, ♂ hypopygium: *C. chilamche* sp. n. 60, ♂ hypopygium.

***Acanthoclinocera saigusai* sp. n.**

(Text-figs. 61, 62)

♂. Head olive-brown with light grey postocular orbits and face. Ocellar bristles divergent. A single row of postocular occipital bristles and some long yellow bristly hairs below. Antennae black. Palpi dark brown with longish dark hairs.

Thorax dark olive-brown with a light grey patch on notopleurae and a light grey median stripe on prescutellar depression. A humeral and a posthumeral present. Two notopleural bristles, upper one stronger, and a postalar present. Five distinct pairs of dorsocentrals present and 3 pairs of tiny hairs between rows on the prescutellar depression, a line of three each side of the

light grey prescutellar median stripe. Pleurae light grey except for a narrow brown band below notopleural suture. Metapleurae with a few slender pale bristles. Scutellum olive-brown except for a median continuation of the pale grey prescutellar stripe at base, upon which are a few hairs. A pair of scutellar marginals present with a weak pair of hairs outside and a tiny pair of hairs inside.

Abdomen olive-brown above, light grey at sides and below. Short dark haired above and short pale haired below. Hypopygium brown.

Legs dark brown, except for grey coxae. Front femora somewhat thickened basally. Legs short haired except for a short, but distinct anteroventral bristle towards tip of front femora and a few short anterodorsal and posteroventral bristles towards tip of hind tibiae, and bristles beneath tarsi including a stronger one at base.

Wings clear, long and narrow. Cell 1st  $M_2$  pointed with only two veins issuing from its end due to short stalk, to the fork of  $M$ . (This feature may be an aberration, but both wings are identical.) Halteres blackish.

Length 3 mm.

Holotype ♂. NEPAL: Taplejung District, Dobhan, c. 3,500', spray-splashed rocks in River Maewa, 2, 5.i.1962 (R. L. Coe).

This species may be distinguished at once from the only other described species, *A. dasyscutellum* Saigusa, by the grey postocular orbits and the abbreviated grey prescutellar stripe.

### *TRICHOCLINOCERA* Collin

*Trichoclinocera* Collin, 1941, *Proc. R. ent. Soc. Lond.* (B), 10: 237.

Collin (1941: 237) erected this genus to receive *T. stackelbergi* Collin described from Tigrovaja on the Far Eastern border of the U.S.S.R. Collin also included the American *Clinocera dolicheretma* Melander (1902: 241) and *Wiedemannia hamifera* Melander (1927: 233) in *Trichoclinocera*, as he says that both have the subcostal vein setulose.

One new species is now described from Nepal.

### *Trichoclinocera maewa* sp. n.

♂. Head grey. Eyes quite widely separated above antennae; face about twice width of an ocellus, with a dark median stripe. Eyes hairy. Ocellar triangle dark with two short divergent ocellar bristles. Occiput with some short black bristly hairs above and long pale hairs below. Antennae black, third segment about as long as first and second segments together; arista black, about 1½ times antennal length. Proboscis short and black, palpi black, with short black hairs below.

Thorax dull brown on disc, but greyish behind humeri along notopleurae and in region of posterior calli. No acrostichal bristles; 5 pairs of dorsocentrals; a humeral; a posthumeral; two notopleurals, upper one stronger; two supra-alars and a weak postalar. Pleurae greyish with a brownish patch below wing base and with a few short pale hairs on mesopleurae, sternopleurae, metapleurae and hypopleurae. Scutellum grey, somewhat brownish on disc with a pair of crossing apical bristles.

Abdomen slate-grey at sides, but more brownish above. Hypopygium grey.

Legs with coxae grey, otherwise brownish. Front femora slightly thickened and with short black bristly hairs below. Middle femora slender, short haired with short spaced posteroventral bristles and one or two similar posteroventral bristles, but only towards tip. Hind femora slender with one or two short antero- and posteroventral bristles towards tip. All tibiae short

haired, but hind tibiae with one or two bristly hairs above and below near tip. Tarsi simple and short haired, hind metatarsi with a few very short spaced bristles below.

Wings long and clear; halteres brownish.

♀. Similar to male, but frons and face wider. Abdomen blunt at tip. Legs shorter haired, but front femora with some long pale bristly hairs posteroventrally.

Length 2.5 mm.

Holotype ♂. NEPAL: Taplejung District, Dobhan, c. 3,500', spray-splashed rocks in River Maewa (R. L. Coe).

Paratype ♀, same data as Holotype.

Similar to *T. stackelbergi* Collin, but that species has wings with clouded cross-veins, and a blunter cell 1st  $M_2$ ; grey legs and seven pairs of dorsocentral bristles.

### **PROCLINOPYGA** Melander

*Proclinopyga* Melander, 1927, *Gen. Ins.* 185: 220-221.

This genus was erected by Melander to receive 5 species and a variety from North America. Collin (1941: 241) described *P. pervaga* from the Far Eastern border of the U.S.S.R. and Saigusa (1963) has described two species and recorded *P. pervaga* Collin from Japan and notes that others occur there.

One species was found in Nepal, which is here treated as a subspecies of the Japanese *P. seticosta* Saigusa.

#### ***Proclinopyga seticosta occidentalis* subsp. n.**

(Text-figs. 65, 66)

♂. Head brownish grey with face more greyish. A pair of long outcurved ocellar bristles with a pair of divergent hairs between and a further pair behind ocellar triangle. Two rows of occipital bristles, those above longer. Antennae black. Proboscis short, palpi black, thickened at tip and clothed with dark hairs.

Thorax brown, somewhat greyish on narrow median line, on humeri and at sides. Acrostichal bristles biserial and usually 6 uniserial dorsocentrals present, but sometimes 5-7 of varying strength. A humeral and long curved intrahumeral, 3 notopleurals in an oblique row, 3 supralars and a postalar present. Pleurae greyish brown, 2 or 3 weak metapleural bristles. Scutellum greyish brown with 4 marginal bristles, outer pair weak.

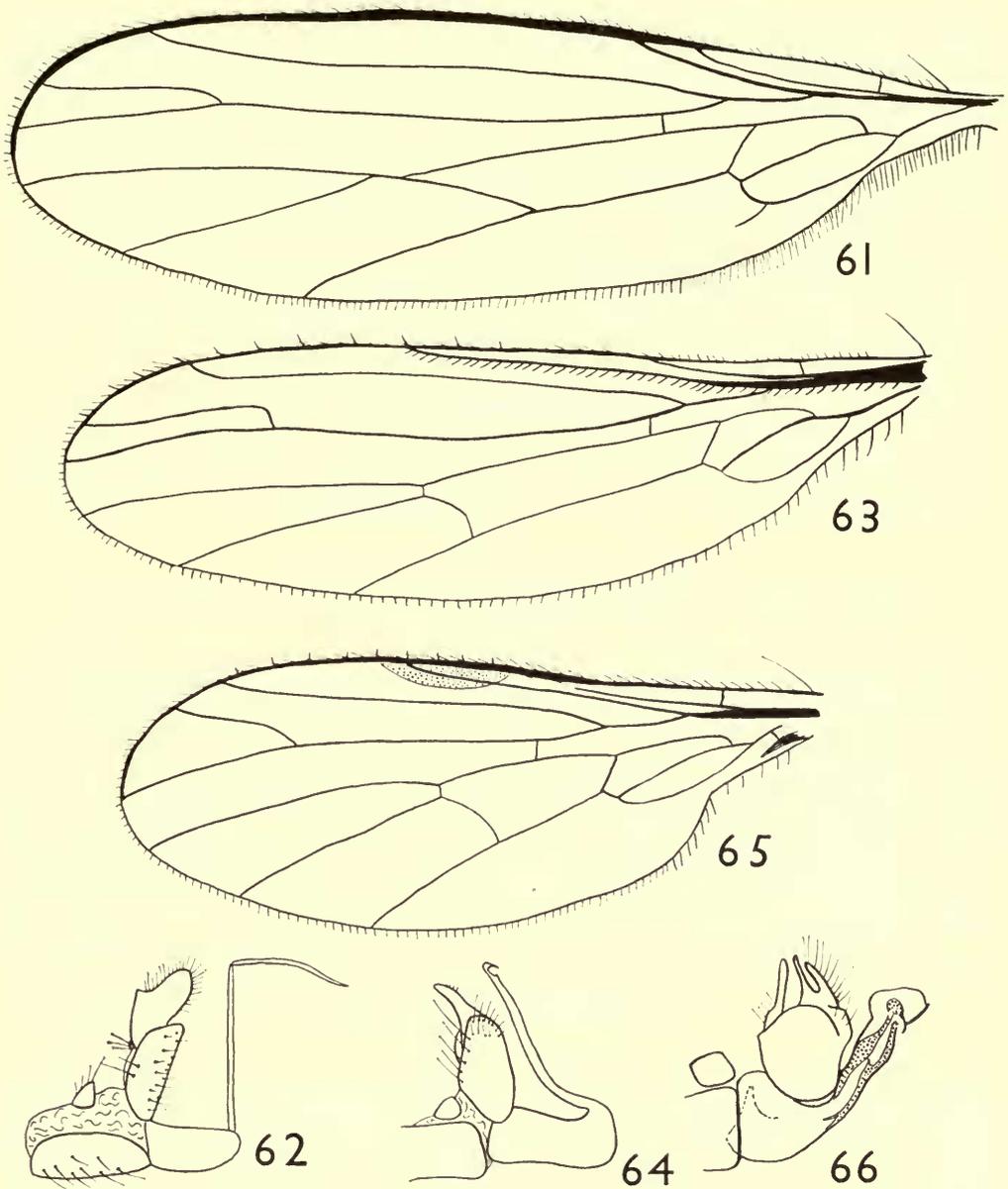
Abdomen greyish with short hairs below and longer above. Hypopygium blackish with aedeagus heavily sclerotized and shining.

Legs black. Coxae with some pale bristly hairs in front. Front femora short haired except for one or two weak posterodorsal bristles. Middle femora with slender posteroventral bristles. Hind femora with weak anteroventral bristles, but fairly strong anterodorsals. Front tibiae with a weak but distinct anterodorsal and a similar posterodorsal in a pair near base, posteroventral bristly hairs longest. Hind tibiae with an anterodorsal bristle above near base. Tarsi slender.

Wings brownish tinged with a faint stigma. Costa with distinct setulae from base of stigma to tip of vein  $R_{2+3}$ . Halteres dark brown.

♀. Similar to male, but legs with much weaker bristles and hairs except for the anterodorsals on the hind femora.

Length 2.5 mm.



FIGS. 61-66. *Acanthoclinocera saigusai* sp. n. 61, wing; 62, ♂ hypopygium. *Trichoclinocera maewa* sp. n. 63, wing; 64, ♂ hypopygium. *Proclinopyga seticosta* Saigusa subsp. *occidentalis* subsp. n. 65, wing; 66, ♂ hypopygium.

Holotype ♂. NEPAL: Taplejung District, between Sangu and Tamrang, spray-splashed rocks in deep gorge, c. 5,200', I.i-14.ii.1962 (R. L. Coe).

Paratypes: 3 ♂, 3 ♀, same data as Holotype.

The subspecies differs from the typical form as follows: wings less strongly brownish tinged, hence making the stigma a little more distinct; the thorax is more greyish at sides and on the humeri and the scutellum is greyish; the legs are darker; coxae with some pale hairs below (all black in *P. seticosta*). The genitalia are very similar, but the anterior margin of the aedeagus is strongly sinuate.

Saigusa apparently included the intra-humerals in his range of 7-9 dorsocentrals.

These differences are slight, but consistent in the series studied and the two subspecies are certainly reproductively isolated, though they may prove to form part of a cline when material is available from intermediate territories. Meanwhile it seems advisable to give a subspecific name to the form described.

### CLINOCERA Meigen

*Clinocera* Meigen, 1803, in Illiger. *Mag. Ins.* 2: 271.

Five species of *Clinocera* s. s. were collected by Mr. Coe.

#### KEY TO NEPALESE SPECIES OF *Clinocera*

- |       |  |                         |
|-------|--|-------------------------|
| 1     | Larger species with long (4 mm.) narrow wings and both sexes with short black antero- and posteroventral points beneath the brown front femora                               |                         |
|       |  | <i>evae</i> sp. n.      |
| -     | Smaller species with short (3 mm.) wings. Front femora of males with distinct antero- and posteroventral bristles (or, if with black points, then femora are yellow beneath) | 2                       |
| 2 (1) | Front femora yellowish for entire length beneath   | 3                       |
| -     | Front femora at most yellowish for short distance beneath towards tip  | 4                       |
| 3 (2) | ♂ with slender, pale antero- and posteroventral bristles on front femora   |                         |
|       | Thoracic bristles strong   | <i>chilamche</i> sp. n. |
| -     | ♂ with short black antero- and posteroventral points which are restricted to middle third. Thoracic bristles weak  | <i>nadi</i> sp. n.      |
| 4 (2) | Front coxae yellowish  | sp.                     |
| -     | Front coxae dark brown   | <i>pani</i> sp. n.      |

### *Clinocera evae* sp. n.

(Text-figs. 53, 54)

♂. Head brown with face grey. A pair of widely divergent ocellar bristles, two more or less distinct outer vertical bristles and a pair of postvertical bristles. A series of postocular occipital bristles above and pale hairs below. Antennae black. Palpi dark brown with some bristly hairs at tip.

Thorax brown with prothoracic collar, humeri and a small notopleural patch grey; viewed from above with a dark median stripe (which commences as two very narrow stripes which merge above middle of thorax) and two dark lateral patches, one behind humerus and one behind notopleural bristle. A humeral, notopleural, postalar and five pairs of dorsocentral bristles present. Pleurae grey. Prothoracic sternum with some long pale hairs at sides and metapleurae with about a dozen long pale bristly hairs. Scutellum brown with a pair of slender apical bristles.

Abdomen brown dorsally, grey laterally and ventrally, short haired. Hypopygium grey.

Legs dark brown. Front femora thickened, with some very short black anteroventral bristles on basal half, some stouter anteroventral black points on distal half; long pale posteroventral bristles on basal two-thirds and some stout black points on distal third. Middle femora slender with slender anterior bristles along entire length. Hind femora slender with short anterodorsal bristles. All tibiae slender, front tibiae ciliate beneath, otherwise with no outstanding bristles. Tarsi slender.

Wings faintly brownish tinged, with brown veins. Halteres brown.

♀. Similar to male, but front femora not so thickened, without the tiny basal anteroventral bristles and with the pale posteroventral bristles weak.

Length 3 mm.

Holotype ♂. NEPAL: Taplejung District, Dobhan, c. 3,500', spray-splashed rocks in River Maewa, 25.i.1962 (R. L. Coe).

Paratypes: 2 ♂, 2 ♀, same data as Holotype.

This species resembles *C. fluviatilis* Brunetti (1913: 34, fig. 33) from India, but in that species the thorax is darker, the first  $M_2$  cell less pointed distally, cell  $R_4$  is broader, and the genitalia quite different.

The species is named after my mother.

### *Clinocera chilamche* sp. n.

(Text-fig. 60)

♂. Head blackish, face dusted greyish. A pair of long ocellar bristles swept backwards. Occiput with a pair of outer vertical bristles, a row of postocular bristles and some short pale hairs below. Palpi short with bristly hairs at tip.

Thorax blackish, dusted brownish but subshining with humeri and notopleurae dusted greyish. A humeral, and a posthumeral; two notopleurals, upper one longer; a supra-alar and a postalar; five pairs of dorsocentrals. Pleurae blackish, dusted brownish. Metapleurae with about a dozen fine bristles. Scutellum concolorous with thorax and with two apical bristles.

Abdomen dark brownish, dusted brown, very sparsely short haired. Hypopygium blackish.

Legs with front coxae largely yellowish, all femora yellowish below, but otherwise legs brown. Front femora with weak pale antero- and posteroventral bristles. Front tibiae with some anterodorsal bristles hairy. Hind tibiae with some short bristles above and below distally.

Wings faintly brownish tinged, venation resembling the unnamed *Clinocera* sp. described below, but base of fork of  $R_{4+5}$  complete. Halteres blackish.

♀. Similar to male, but bristles beneath front femora very weak.

Length 2.5 mm.

Holotype ♂. NEPAL: Taplejung District, Sangu, spray-splashed rocks in shallow ravine, c. 6,200', 13.i.1962 (R. L. Coe).

Paratypes: 2 ♀, same data as Holotype.

Mr. Coe informs me that he has seen this species washed from one rock to another without being harmed.

Very similar to *C. megalatlantica* Vaillant (1956: 65), but first  $M_2$  cell more pointed, cell  $R_4$  narrower and genitalia differing in the blunter broader surstylus and more slender aedeagus.

The specific name is a Nepalese word meaning "washing bowl".

*Clinocera pani* sp. n.

(Text-figs. 55, 56)

♂. Head dark olive-brown, with a pair of divergent ocellar bristles and a pair of distinct outer vertical bristles. Postocular bristles in a single row with some longer pale hairs below. Antennae black. Palpi dark brown with very short hairs.

Thorax dark olive-brown with small greyish patches on humeri, notopleurae and posterior calli. Viewed from above the thorax looks blackish, with a broad dark brown median stripe drawn to a point anteriorly, and narrowly pale around all margins. Humeri somewhat reddish yellow on hind corner. A humeral and posthumeral bristles; two notopleurals present, upper one stronger; five pairs of dorsocentrals; a supra-alar and postalar. Pleurae greyish with a few bristles on metapleurae. Scutellum dark olive-brown with a pair of apical bristles.

Abdomen dark brownish grey with black hairs. Hypopygium black.

Legs dark brown with front femora yellowish at tip beneath and hind coxae somewhat yellowish behind. Front femora with short anteroventral bristles and slightly longer posteroventral bristles, short haired above. Middle femora almost bare below, short haired above but with some longer anterodorsal bristly hairs. Hind femora weakly haired below, short haired above. Tibiae and tarsi slender without outstanding bristles.

Wings grey with brown veins; halteres black with yellow base.

♀. Similar to male, but front femora without bristles beneath.

Length 3 mm.

Holotype ♂. NEPAL: Taplejung District, Dobhan, c. 3,500', spray-splashed rocks in River Maewa, 25.i.1962 (R. L. Coe).

Paratypes: 9 ♂, 5 ♀, same data as Holotype.

In structure of the male genitalia this species resembles *Clinocera rufipes* Bezzi as figured by Vaillant (1960: 177, pl. 2, figs. c-f). Bezzi (1899: 147) described this as a variety of *C. nigra* Meigen and Collin (1960: 743) treats it as "only a pale legged form of *C. nigra*" and states that this is "now generally accepted". However Vaillant (*loc. cit.*) regards it as a distinct species and if the Russian species figured by him is in fact conspecific with Bezzi's type then he is justified. Although obviously very close, the leg coloration appears to distinguish *C. pani*.

The specific name is a Nepalese word meaning "rain".

*Clinocera nadi* sp. n.

(Text-fig. 59)

♂. Very similar to *C. chilamche*, but differing as follows:

Head and thorax heavily brownish dusted and completely dull. Thoracic bristles weaker, dorsocentrals weak, other bristles very weak. Abdomen greyish almost bare except for tiny hairs on hind margins of tergites and sternites. Hypopygium distinct. Antero- and posteroventral bristles beneath front femora short and spine-like, black and restricted to middle.

♀ unknown.

Holotype ♂. NEPAL: Taplejung District, Sangu, spray-splashed rocks in shallow ravine, c. 6,200', 13.i.1962 (R. L. Coe).

The hypopygium of *C. nadi* strongly resemble Engel's (1931: 487) figure of his *C. feuerborni* from Java, but that species has a small costal stigma.

The specific name is a Nepalese word meaning "river".

*Clinocera* sp.

(Text-figs. 57, 58)

The venation of this specimen may be aberrant and while the genitalia are distinct I am reluctant to describe the species under a new name until further material is available.

NEPAL: Taplejung District, between Sangu and Tamrang, spray-splashed rocks in deep gorge, c. 5,200', I-14.ii.1962, 1 ♂ (*R. L. Coe*).

## REFERENCES

- BÄHRMANN, R. 1960. Vergleichend-morphologische Untersuchungen der männlichen Kopulationsorgane bei Empididen (Diptera). *Beitr. Ent.* **10**: 485-540.
- BECKER, T. 1907. Zur Kenntnis der Dipteren von Central-Asien. *Ezheg. zool. Muz.* **12**: 253-317.
- 1914. Diptères nouveaux d'Afrique orientale. *Annls Soc. ent. Fr.* **83**: 120-130.
- BEZZI, M. 1899. Contribuzioni alla fauna ditterologica italiana, 2. Ditteri delle Marche e degli Abruzzi. *Boll. Soc. ent. ital.* **30**: 121-164.
- 1904. Empididae Indo-Australiani raccolti dal Signor L. Biro. *Annls hist. nat. Mus. natn. hung.* **2**: 320-361.
- 1912. Rhagionidae et Empididae ex insula Formosa a clar. H. Sauter missae. *Annls hist. nat. Mus. natn. hung.* **10**: 442-496.
- 1914. H. Sauters Formosa-Ausbeute. Rhagionidae et Empididae (Dipt.). *Suppl. ent., Berl.* **3**: 65-78.
- BIGOT, J. M. F. 1859. Dipteronum aliquot nova genera. *Rev. Mag. Zool.* **11**: 305-315.
- 1889. Diptères nouveaux ou peu connus, 34me. partie. XLII. Empidi. *Annls Soc. ent. Fr.* **9**: 111-134.
- BRUNETTI, E. 1913. New Indian Empididae. *Rec. Indian Mus.* **9**: 11-45.
- 1920. Diptera Brachycera, 1. *Fauna of British India*, London.
- COLLIN, J. E. 1941. Some Pipunculidae and Empididae from the Ussuri Region on the far Eastern border of the U.S.S.R. (Diptera). Part 2. Empididae. *Proc. R. ent. Soc. Lond.* (B) **10**: 225-248.
- 1960 (1959). Some Empididae from Palestine. *Ann. Mag. nat. Hist.* (13) **2**: 385-420.
- 1961. *British Flies*. 6. Empididae. Cambridge.
- ENGEL, E. O. 1931. Empididae (Dipt.) aus Java. *Arch. Hydrobiol.* **8**: 486-489.
- ENGEL, E. O. and FREY, R. 1938-1956. In LINDNER, *Die Fliegen der Palaearktischen Region*, Empididae. Stuttgart.
- FREY, R. 1913. Zur Kenntnis der Dipterenfauna Finlands, 2, Empididae. *Acta Soc. Fauna Flora fenn.* **37**: 1-89.
- 1938. Hybotinen (Dip., Empididae) von Formosa und den Philippinen. *Notul. ent., Helsingf.* **18**: 52-62.
- 1943. Übersicht der paläarktischen Arten der Gattung *Platypalpus* Macq. (= *Coryneta* Meig.) (Dipt., Empididae). *Notul. ent., Helsingf.* **23**: 1-19.
- 1952. Studien über ostasiatische *Hilara*-Arten (Diptera, Empididae). *Notul. ent., Helsingf.* **32**: 119-143.
- 1955. Studien über ostasiatische Dipteren 4. *Notul. ent., Helsingf.* **35**: 1-14.
- HENNIG, W. 1941. Verzeichnis der Dipteren von Formosa. *Ent. Beih. Berl.-Dahlem*, **8**: 1-239.
- JONES, C. G. 1940. Empididae: A.-Hybotinae, Ocydromiinae, Clinocerinae and Hemerdromiinae. *Ruwenzori Expedition 1934-5*. Brit. Mus. (Nat. Hist.) London, **2** (5): 257-323.
- LOEW, H. 1861. Die Dipteren-Fauna Süd-Afrikas. *Abh. naturw. Ver. Sachsen u. Thüringen*, **2**: 57-402.

- MEIGEN, J. W. 1818-1838. Systematische Beschreibung der bekannten europäischen zweiflügeligen Insecten. Hamm.
- MEIJERE, J. C. H. de. 1911. Studien über Sudostasiatische Dipteren. 6. *Tijdschr. Ent.* **54**: 258-432.
- 1914. Studien über Sudostasiatische Dipteren. 8. *Tijdschr. Ent.* **56**: 1-99.
- MELANDER, A. L. 1902. Monograph of the North American Empididae, part 1. *Trans. Amer. ent. Soc.* **28**: 195-367.
- 1927. Empididae, in WYTSMAN, P., Genera Insectorum **185**. Brussels.
- OSTEN-SACKEN, C. R. 1881. Enumeration of the Diptera of the Malay Archipelago, collected by Prof. O. Beccari, Mr. L. M. d'Albertis and others. *Annali Mus. Civ. Stor. nat. Giacomo Doria* **16**: 393-492.
- 1882. Diptera from the Phillipine Islands brought home by Carl Semper. *Berl. ent. Z.*, **26**: 83-120; 187-252.
- SAIGUSA, T. 1963a. The genus *Proclinopyga*, a nearctic element of Empididae, in Japan (Diptera, Empididae). *Sieboldia*, **3**: 91-95.
- 1963b. Studies on the genus *Heleodromia* in Japan (Diptera, Empididae). *Sieboldia*, **3**: 119-129.
- 1963c. Three new species of the genus *Hilara* from Japan (Diptera, Empididae). *Sieboldia*, **3**: 177-181.
- 1965. Two new species of Clinocerinae (Diptera, Empididae) from Japan. *Kontyû*, **33**: 53-57.
- SMITH, K. G. V. 1965. A new species of *Stilpon* Loew, 1859 (Diptera Empididae) from Portugal. *Proc. R. ent. Soc. Lond.* (B) **34**: 48-50.
- VAILLANT, F. 1956. Contribution à l'étude des Diptères Empididae du Grand-Atlas marocain. I. Hemerodromiinae et Atalantinae. *Bull. Soc. Sci. nat. phys. Maroc.*, **36**: 61-71.
- 1960. Quelques Empididae Atalantinae d'Asie russe (Dipt.). *Bull. Soc. ent. Fr.*, **65**: 170-186.
- WALKER, F. 1848-1855. *List of the specimens of Dipterous Insects in the collection of the British Museum*. London.
- WHITE, R. SENIOR-. 1922. Notes on Indian Diptera. *Mem. Dep. Agric. India, Ent.*, **7**: 83-169.
- 1924. New Ceylon Diptera. 3. *Spolia zeylan.* **12**: 375-406.
- WIEDEMANN, C. R. W. 1828-30. *Aussereuropäische zweiflügelige Insekten*. Hamm.
- WULP, F. M. VAN DER. 1897. Zur Dipteren-Fauna von Ceylon. *Természetr. Füzet.*, **20**: 136-144.

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